

Using a Multimedia Final Project in an IT Ethics Course

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Abstract

In previous semesters of our IT Ethics course, students created traditional final projects where they presented some topic in IT Ethics that we did not cover during the course. Students were free to choose how they would present their information with most groups choosing a traditional presentation where some members of the group were clearly improvising on the day of the presentation. There were a few groups, however, who would embrace the challenge for creativity and create movie trailers, mock trial scenes, or short skits. We wondered if students would feel more engaged in the course material if their final project required the creativity of a multimedia project.

Keywords: IT Ethics, Creativity, Multimedia Project, Student Engagement, Pedagogy

1. THE IT ETHICS COURSE

As previously described (Howard, 2007a, 2007b; Howard, Bulach, Carver, et al, 2009; Woods & Howard, 2013), we have used a number of activities to facilitate student engagement, preparedness, and creativity in our IT Ethics course. Our IT Ethics course is designed as a discussion and writing intensive course. The instructor does not present lectures and acts more as a moderator or facilitator during the course. Some of our course activities include guided online discussions, a hands-on activity where each student runs the Wireshark network protocol analysis software (www.wireshark.org) to capture network traffic while executing a Google search, requiring written notes that count for half of the points for quizzes to encourage students to read and be prepared for class, a variety of in-class discussions, and using

contemporary films to discuss intellectual property and privacy. Students also write position papers during the semester where they must argue and support their chosen stance. In addition to citing outside scholarly and popular sources in their papers, students must also quote their classmates (quotes are typically chosen from the online discussions but students may also quote in-class discussions). We also encourage students to approach the position papers in a creative fashion and we offer extra credit for creativity. Some examples of creative student position papers include news stories, a short skit, or a letter from the future.

2. WHY CREATIVITY?

Bloom introduced his Taxonomy of Educational Objectives in 1956 and educators have used his taxonomy to move students from Lower Order

Thinking Skills to Higher Order Thinking Skills. In 2001, Anderson and Krathwol published a revised version of Bloom’s Taxonomy (please see Table 1). As students move through the course, first learning the ethical theories, such as Act Utilitarianism, Rule Utilitarianism, and Kantianism, then applying the ethical theories to evaluate various scenarios, they also move through the taxonomy. By creating a multimedia project, students move to the highest level thinking skill. Creativity has been used as a motivation for engagement and learning by many of our colleagues (Burleson, 2005; Hewett, 2005; Lewandowski, Johnson, & Goldweber, 2005; Lubart, 2005; Selker, 2005; Yamamoto & Nakakoji, 2005). Multimedia projects seem to naturally provide the opportunity for creativity as Neo & Neo (2013) found when their students, in a study about creating a multimedia project, “reported finding the project inspiring and a motivating factor to complete the task and were the two highest scoring items in the survey.”

The IT industry also values creativity and skills in multimedia. In a recent survey conducted by the US research company, Edelman Berland, hiring managers reported on the skills required for success in the workplace. (www.adobe.com/go/edu_creative_study.html). “Seventy-five percent of hiring managers agree the job market will change significantly in the next five years. Tech-savvy (88%), the ability to communicate through digital and visual media (82%) and creativity (76%) are cited as becoming essential skills.” “Ninety-four (94) [sic] percent agree creativity is key when evaluating candidates and prefer those with creative skills over conventional skills by more than 5 to 1.”

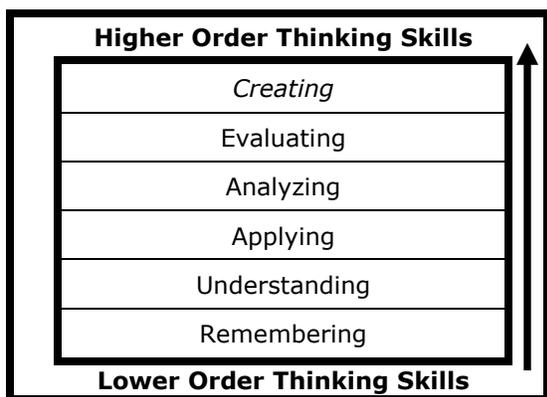


Table 1. Bloom’s Revised Taxonomy

3. THE MULTIMEDIA PROJECT

For the final project, students created multimedia projects on topics about which they thought other college students would be interested. The projects had to be pre-recorded so instead of standing in front of the class and presenting their project, students played their final project for the class. Live presentation by students was only allowed if there were interactive portions, such as a discussion, quiz, or game. To help students focus on creating the project, we asked them to submit their ideas from a brainstorming session followed by a project plan explaining the milestones and deadlines for their project. The instructors reviewed the ideas and provided feedback before the due date for the project plan. During the next two (2) weeks, all groups submitted a status report detailing what they had done on the project. The status reports also included individual status updates from each group member. Finally, the groups submitted a summary, a list of references used, and the project itself. As part of the final exam, students reflected on their experience on the final project. We evaluated the projects using the following criteria:

- **Research and relevance:** Project demonstrates use of sources, accuracy, clear examples, and relevance to topic. The group demonstrated command of the topic.
- **Ethics:** Project clearly addressed ethical aspects of topic by incorporating ethical theories.
- **Clarity:** Project goal was clear. Content was clear and easy to follow.
- **Flowed Well:** Project was professional, appropriate in tone and content, of high quality, involved all members, and was cohesive in look, format, presentation, and style.
- **Attention:** Project was interesting and maintained attention of audience.
- **Creativity:** Format and/or content of the project was creative.

The instructors created a mini-version of a final project so that students could see that we, too, used creativity and could report on our own experience of being more engaged with the project. The instructors also provided a list of possible resources to edit videos, create animated videos, create automated presentations, and create audio sound effects.

4. EXAMPLES OF STUDENT MULTIMEDIA PROJECTS

One group created a movie about "Ethical Dreams and Nightmares," where the students shot several scenes, including a scene where the small daughters of one of the students presented the ethical analysis using Kantianism and Utilitarianism. One student from that group says, "To my own surprise most of the ethical issues were not faced in the scenes of our movie but more so in the editing of our movie. I had to purchase the music I wanted to use in the movie. We had to make sure that we had legal software to edit the movie. We also had to make sure we gave credit where credit was due. All of these situations were covered in IT Ethics, so encountering them in the final project was appropriate. I love the challenge of a final project but this project took the cake. I was immersed in every aspect of this project because I have a great passion for the creative work required to make a good multimedia project."

Another group created a newscast with a number of different reports on software pirating. They also created two videos. One video, in the style of the Dateline NBC's To Catch a Predator, showed a software pirate trying to buy illegal software. Their second video showed a young man downloading illegal files was reminiscent of the iconic Public Service Announcement, "I learned it from you..." from the 1980s. Both videos not only had students from the group but also had a friend and the son of one of the students acting in the video. This group also created a whiteboard video where the objects in the presentation are drawn as the dialogue plays. One of the students in this group said, "By giving us the assignment to teach a concept to others, the project forces us to understand it more fully than simply being able to copy information down into an essay response, or choosing a matching answer from a list. Because we had to translate the information into a new medium, we had to further our understanding of the material since we had to know which topics and ideas within the material were essential to inform the audience."

Another group created an animated movie for an informational program called the "Ethical Insider" focusing on the dangers of casual internet use. The students designed the story, created the animations, and all of the dialogue for the movie. The student who excitedly took on the responsibility for creating most of the animation says, "This project actually taught me a lot about ethics and the causes and effects of identity theft and online privacy. I wasn't just creating the

animations; I was also learning at the same time."

One group created a video about hackers and cybercrime. The video showed two sides of hacking in a dreamlike, hypnotic style of video complete with the scary, computerized mind-controlling voice. They also integrated various news video clips showing cybercrime and how people defend against it. One student reflects, "I have learned a few things about video editing and the facts behind cybercrimes. I was unaware that so many crimes were carried out online. I think everyone in the group learned a lot about this."

One group created a Prezi (with full voiceover) on piracy, including several news stories and other pertinent information. The group also created a video showing a student trying to convince his classmate to allow him to photocopy the textbook (she declines) and then he discovers that he can illegally download a copy. One student says that the multimedia project "helps pull together skills and our group in particular was well matched, because we all had something to bring to the table and I can only speak for myself, but I really was able to take away something from this."

One group created animated movies and a Prezi about the ethics in Health Information Technology (HIT). The group reports, "Through our research, we came across different real life instances where personal health information was released to the wrong person(s) and security and privacy were violated. We learned also that there is also a big financial and legal punishment for violating HIT standards. After all of this, we can now all say that we thoroughly understand the importance of ethics in HIT."

Another group created a Prezi and animated videos about plagiarism and they found a true connection between the course and the lives of students. The group reports, "We all contributed ideas, suggestions and concerns that became the creation of a totally successful project. We believe that the ethical issue raised regarding plagiarism should be brought before the University administration and that this information should be looked at as a real solution."

One group created a quite complex set of animations covering a variety of topics, including 3d printing, regional video coding, the ethical use of video games, and how social media feeds play roles in news aggregation. Although the group encountered technical challenges (which they overcame), students still found the project worthwhile and even included their friends in the

voice recording. One student says, "This format makes it so that the group has to consider—not only in the facts they present, but how they present them—all aspects of the ethics involved in their production. It made them think about what music or added/borrowed files they were using and how to avoid violating copyright protected materials. I believe everyone enjoyed their project in its final form (even if some of us had major issues in its format and design) and I really want it to continue happening in such a way that is both challenging and creative to the class."

5. STUDY AND RESULTS

Over two (2) semesters in three (3) sections of our IT Ethics course (total of 48 students), we asked students to reply to specific questions about the final project in their reflection paper for the course:

1. For your final project, did the fact that it was a multimedia project make it more or less effective than a traditional final project to increase your knowledge of an aspect of IT Ethics?
2. What did you enjoy about creating a multimedia final project?
3. What did you dislike about creating a multimedia final project?
4. Was creating a multimedia final project more engaging, less engaging, or equally engaging than a traditional final project?
5. Would you recommend that the final project continue to be a multimedia project (or simply make it a traditional final project)?

To establish reliability, two coders coded 25% of the students' reflective essays and one of the coders coded all of the essays. The coders were reliable with an agreement level of .94. One student's reflective essay was removed from the study because the student did not answer any of the questions about the final project.

Table 2 shows students' reflection on the effectiveness of the multimedia project (question #1). Eighty-two percent (82%) of the students found the multimedia project more engaging than a traditional project or made a positive comment while 4% found the project to be less effective or made a negative comment. The remaining 13% found the multimedia project equally as effective.

More	Did not explicitly say "more" but made positive comment	Neutral or Equal	Less	Did not explicitly say "less" but made negative comment
69%	13%	13%	2%	2%

Table 2. Question #1 Response (effectiveness of project)

The two most common themes that students listed about what they enjoyed about the project (Question #2) was working with their groups (44%) or a comment about creating some portion of the project or creativity (71%) with some students listing more than one theme.

Students identified the most common themes about disliking the multimedia project (Question #3) as difficulty using the application (27%), trying to schedule time with their groups (29%), and that creating a multimedia project was time-consuming (21%). Nineteen percent (19%) of students explicitly said that there was nothing that they disliked about the final project.

Table 3 summarizes the students' response to whether they found the multimedia project more, equally, or less engaging than a traditional project (question #4). Seventy-five percent (75%) of students found the multimedia project more engaging, 15% found it equally as engaging, 4% found it less engaging, and 6% did not say.

More	Equal	Less	Did not say
75%	15%	4%	6%

Table 3. Question #4 Response (engaging)

When asked if we should continue to use the multimedia project (question #5), 92% of the students said yes, 2% said no, 6% suggested that we should offer students a choice between a multimedia project and a more traditional presentation, and 2% didn't say (please see Table 4). One student said that the project was not effective and students should be given a choice.

Yes	No	Didn't say	Offer Choice
92%	2%	2%	6%

Table 4. Question #5 Response (recommend continued use of multimedia project)

6. DISCUSSION

Overall, the students report that the multimedia project helped them to better understand IT Ethics, was more engaging, and overwhelmingly recommended that we continue to use multimedia in our final project for the course. Students seemed to appreciate the opportunity for creativity rather than preparing the typical informational presentation. As with any group project, especially with students who are often working and have families, they had challenges finding time to meet. Students did note that multimedia projects are time-consuming since all of the work has to be done before the date of presentation. One student sums it up well by saying, "The use of multimedia was more engaging and more fun when we look at the final outcome. Getting there was often a detractor, but it was worth it in the end. A traditional final project, though challenging, can be stressful and not interesting. The multimedia was stressful and interesting." While we provided students with a list of possible resources to edit videos, create animated videos, create automated presentations, and create audio sound effects, students did not contact us with questions about the various applications. If a group had difficulty with an application, they would find a solution themselves, such as using a different application.

We were surprised by the enthusiasm that students demonstrated for the final project. Students made comments, such as, "it is one of the most fun and proudest moments of my college experience thus far," "joy in creating project," and "awesome to be a part of it." Quite frankly, group projects have not generally been so positively reviewed. We were also surprised by the groups who included friends and family in their projects as actors, videographers, writers of dialogues, and voiceover recorders. As educators, we hope that our courses will help students make connections in their lives and we were thrilled to explicitly see those connections in these projects.

7. CONCLUSION

As instructors, we observed that students were more excited about creating a multimedia project. They designed their own scenarios, wrote the dialogue, and created animations or recorded videos. Groups even involved their friends and families. Since the presentations were pre-recorded, groups had to communicate to create the automated presentations and students were not able to simply improvise by reading slides that their teammates had created. In their

reflective paper, students report that they found the multimedia project more engaging and would definitely recommend using multimedia projects in future semesters. We will continue to use the multimedia project in the course.

One challenge is that multimedia projects can result in large files, which can be difficult for groups to share and submit. We also encourage students to explore applications that are free or offer a free trial version. These free trial versions often have a limit on the length of the video so often each student will create a portion of the video. Since this is not a course about designing multimedia projects and our main goal with creating a multimedia project is to engage students with their topic, their group, and their creative side, we allow students to submit multiple files rather than one huge file. When the groups present their project, one of the students may need to play a series of videos rather than having a fully automated presentation.

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