Project Based Inquiry

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Project Based Inquiry:
Student Engagement in a Multimedia Inquiry Unit

The classroom setting for our PBI was a tenth grade English II Honors class at Athens Drive High School, a large, urban high school in the downtown Raleigh area. According to the Common Core Standards, students in the class are supposed to participate in activities that focus on reading literature, reading informational text, writing, language, speaking and listening within the context of World Literature. Additionally, according to the North Carolina Essential Standards for Information and Technology, students in World Literature are supposed to utilize technology and develop the skills necessary to evaluate problems and resources they need in the problem-solving process. We were curious how the use of multimedia in an open-ended project would enhance their engagement and expand their acquisition of essential language arts and twenty-first century skills.

We decided to center our unit on Ancient Chinese literature and philosophy, being that two of our group members are natives of China and had specific knowledge of Confucius and Taoism that otherwise would not be as accessible to students. We felt that an inquiry project would be appropriate for the class because of their ability to ask academic questions of themselves and seek the answers independently, and also because of their previous affinity for assignments that involved individual choice.

We decided that our two Chinese group members, Lulu and Jennifer, would best benefit the students by introducing the breadth of topics within Ancient Chinese literature and philosophy to the students, and by being available to the students thereafter as primary sources for their research and consultants for their culturally-related questions. The third group member, Tracey, would best benefit the students by continuing in her role of teacher and guiding the daily instruction of the students according to the ELA standards. Tracey would assist students in the research process as well as with the details of completing the project’s multimedia component. Finally, Tracey would be responsible for assessing the students and collecting data for the PBI.

In terms of an introduction, Lulu modeled the use of Toondoo, Voki and Voicethread to introduce Confucianism. Jennifer modeled Voicethread and Linoit while she presented about Taoism. The next day, students began some independent work to explore the unit literature in a more in-depth manner by investigating webquests at [bit.ly/coxconfucius](http://bit.ly/coxconfucius) and [bit.ly/coxcompare](http://bit.ly/coxcompare). Students explored the tenants of Confucianism and Taoism in comparison with one another. For each web quest, a culminating assessment was completed online using Google Forms. Students also used an online Venn Diagram maker to translate their thoughts into a visual. Later, their homework was to reflect on their work in blog entries. Students began questioning themselves and others naturally, voicing their various confusions and inquiries and attempting to help each other in an online dialogue.

The next step of the process involved student conversation online and in person with the goal of solidifying interests and partnering with those whose inquiry seemed to overlap. Once students chose partnerships, they were asked to come up with a team name and a compelling question to guide their research. The next step in the process involved the class Blackboard site, where students posted their compelling questions in a Project Proposal that were then rated by their classmates, who provided constructive criticism geared toward a revision and final submission to the teacher. Students’ compelling questions reflected the freedom they felt to investigate their wide range of personal interests within the scope of the unit:

1. How does the ancient literature of China, especially in The Monkey King by Wu Cheng-en, relate to the modern teenagers of America?
2. How can modern athletes use the teachings of Taoism to enhance their athletic performance?
3. How do the ancient teachings of Confucius relate to modern-day teenagers?
4. How has Chinese written language evolved from ancient to modern times?
5. How can the concept of yin-yang help teenagers find a better balance between their personal and academic lives?
6. How have the writings of Sun Tzu in The Art of War influenced modern day military tacticians?
7. What is Wu Wei and how does it relate to modern China?
8. What are the three jewels of Taoism and how can we apply them to our lives?
9. How does ancient and modern Chinese poetry compare?
10. How do ancient Chinese proverbs found in the teachings of Confucius compare to proverbs of other cultures (Pakistani, Mexican, American)?
11. How has the educational system in China evolved from ancient to modern times, and how does it compare to the United States?
12. What were the roles of women in ancient China? How have they changed, and why?

At this point, teams began the research process and started to think about the Web 2.0 tools they were interested in using for their multimedia report and presentation. A multitude of resources were available to them. First and foremost, they were encouraged to utilize the school’s library, which also serves the function of a public library and as a result offers many more resources to students as well as longer hours than the average school library. Students were also able to submit questions to Lulu and Jennifer via email and in person during class sessions. Another primary resource available to them was their Chinese pen pals, first-year students at a university in Nanjing, China. In terms of Web 2.0 tools, students participated in various mini-lessons to learn about Voicethread, Prezi, Vimeo, Linoit, Wordle, Toondoo, Voki, and others. Tracey responded to student interest in the selection and design of the mini-lessons.

The most time-consuming portion of the project was the research phase. Students worked with their teams on a daily basis to answer their compelling questions in a way that utilized technology. Some students checked out multimedia equipment from the library to produce video and audio components. Others spent their time building websites or reading digital media. The entire time, they wrote in their team blogs to outline their progress and assess the acquisition of their goals.

During the presentation phase, students took turns instructing the class about their chosen topics. Presentations were dynamic and varied widely in mode and method. As their classmates presented, the audience members took notes online and assessed each other using a Google Form. After each team presented, they completed self-assessments and partner assessments online as well. In this way, Tracey could be sure that her overall rubric involved input from all available sources for each student’s grade.

The final portion of the project asked students to post their presentation files on their team blogs for class discussion. Their classmates posted comments and questions and they were in charge of monitoring and facilitating the discussion that resulted. Each student was assessed for his or her ability to appropriately discuss each topic.

Our PBI group also chose to have the students assess the project itself. Students reported being more self-motivated and engaged throughout the project because they felt that they were allowed to make their own choices and work on their own schedule. They felt they had the resources they needed to answer their questions, and also reported feeling satisfied and proud of their final products.

As our PBI group engaged in reflection about the unit, we discussed various challenges we had faced and successes we had experienced. First and foremost, Lulu and Jennifer felt challenged by their first experience teaching in an American high school setting and the resulting individual work they’d done with the students. Since English is not their first language, they spent a tremendous amount of time preparing their presentations. It was not easy for the American students to understand such abstract concepts. In comparison to Chinese students, the American teenagers seemed more active and curious to Lulu and Jennifer, leading them to be more likely to be inspired by the dynamics of a technologically enhanced unit. We felt that our collaboration was effective although we were not able to divide the work equally enough.

In general for all of us, it was a challenge to supply the students with the resources they would need to answer their wide range of compelling questions. However, the resulting increase in student research and technology skills was tenfold. Tracey noticed that in the later phases of the unit students were more likely to use the specific vocabulary necessary for technological understanding. Students had a better understanding of technological concepts such as uploading, downloading, html processes, hypertext, servers, file types, online sharing, etc.

In terms of the concepts introduced in the unit, it was clear from student output that they had successfully engaged in the analysis of ancient Chinese writing and philosophy made necessary by the standards of the course. Their acquisition of knowledge and their resulting ability to compare Chinese culture with their own and apply their new learning to their lives was astounding.

Some students, as was expected, had difficulties in the collaboration process. One of the key twenty-first century skills they will need in their lives is the ability to work cooperatively with others on shared objectives and projects. Periodically, students had difficulties setting up a structure within their teams that would result in the best possible end product. Through the use of blogging and conferences with their teacher, students were in general able to work through their interpersonal struggles and proceed with the project to completion. Tracey expects that future group projects will again try the students’ new collaboration skills, but on a lesser level.

Our PBI unit emphasized the constructivist learning theory. Students were encouraged to follow their own inquiry in a classroom environment built around their collaborative questions. The dialogue they carried on with one another and their instructors assisted them in unique ways to achieve their individual learning goals. The production of a multimedia presentation ensured that each student was accessing learning technologies while at the same time able to work with their team to pursue their own interests. In a constructivist classroom, teachers are able to spend ample one-on-one time with their students, and we made sure the students had access to many different instructors so their one-on-one time was maximized; they were able to access the expertise of those outside the classroom, such as the school’s library/media specialists. We hoped that using a constructivist technique would assist students in building useful schema for future learning experiences both inside and outside the classroom. According to Revised Blooms Taxonomy, students engaged in an evaluative process throughout the project in which they synthesized their learning while creating an output that utilized their digital language skills.

In terms of the collaborative process in our own PBI group, similar struggles were experienced. Scheduling was difficult at times, but our use of online tools such as Google Docs and our Wiki page assisted us in distance collaboration. We were able to work independently of one another but at the same time, share our progress through phone calls, email, and other meetings. We noticed growth in ourselves within the context of TPACK because the PBI pushed us to use instructional techniques and classroom tools with which we had not previously been familiar.

Overall, our group felt that the PBI process enriched our content knowledge, teaching pedagogy, and technological/instructional skills, all of which we will be able to apply to further projects within a teaching context. We feel that we have a better understanding of how and why teachers need to use Web 2.0 tools in their teaching and the importance of inquiry and student choice in ELA classrooms. Such twenty-first century skills contribute to student online literacy and their continuing ability to seek out the knowledge they need to answer self-made questions. We strongly believe that students who are exposed early on to lessons that utilize new literacies will be more likely to be successful in a twenty-first century economy, which should be the basic goal of all schools and teachers.