

Introduction

M.S. 328, located in Washington Heights, Manhattan, serves a Dominican immigrant population. Also known as The School of Scientific Inquiry, it attempts to capture students' attention through innovative educational tools ranging from "Mouse Squad" computer training to raising fresh produce. In a low-income community where over ninety percent of students receive free lunch, the need to engage students is especially pronounced. Teachers, after finding that most of the students eat little or none of their lunch, saw an opportunity to address real and immediate concerns of the students. In their social studies, math, and English classes, teachers created assignments, coupled with visits to other school cafeterias, to encourage students to think about nutrition, what is served in school lunch, and their visions for how it might be improved. Hoping to maintain this dialogue beyond the classroom and to engage stakeholders beyond MS 328 students, the teachers and school administrators asked for a digital platform to promote coalition building, resource sharing, and advocacy to improve school lunches.

We responded to this call with the website School Food for Thought. Over the course of the semester, we collaborated with teachers and the school's sustainability coordinator Fai Walker, to design a flexible open-source blog that could adapt to the school's evolving school food advocacy strategies. The primary tools of the website allow students to post their assignments and other stakeholders to express their concerns and organize collective action. In addition, the website enables users to send direct criticism to the Office of School Health regarding the NYC Department of Education's Wellness Policy.

The site's accessibility, greater than a simple school newsletter, allows students, parents, teachers, and other individuals to contribute from anywhere in the world. Though its base lies within MS 328, School Food for Thought encourages contribution from a variety of perspectives and schools. The website will initially serve MS 328 needs, but as the school develops its coalition, the website will facilitate advocacy expansion.

Process and Implementation

Our initial discussion with Fai, the sustainability consultant at MS 328, and the teachers of MS328 was around the faculty's concern about MS328's lunches and around our objectives in our Crowd Sourcing course. We were then provided a tour of the school and we observed the students' lunch experience, what they were eating, whether they were eating the food and what they were not eating. We discovered that the cafeteria was serving hamburgers, chocolate milk, french fries and an apple that day, where most of the food served was processed. More than half of the students either did not finish their lunch or did not touch their food and threw everything in the trash.

Following the cafeteria observation, the teachers, Fai and we brainstormed ideas of how to use crowd sourcing to become a tool in building a coalition to help MS328 and other schools in the district improve their lunches. Our main challenge was to create a project that not only is crowd sourcing but can be something that's integrated into the curriculum. The ideas that we came up with were: School lunch stories about their own experiences, interview parents about their school lunches and geocode where they are from, have students go to other schools and

compare and contrast their lunches, have a survey that the students create and conduct, etc.

Students went on a field trip to a couple other schools to see what their school lunches were like. This was to supplement their curriculum in writing articles, conducting interviews and taking surveys on perceptions on school food. From this field trip, the students interviewed school lunch workers and assessed the lunch options compared with their own.

In the meantime, using our findings and the students' findings, we decided to highlight what the students thoughts and observations were about school lunches by creating a digital platform that would create continuous dialogue through a narrative of school food stories. This platform would aggregate stakeholders' findings and will hopefully serve as a tool in understanding what is occurring throughout New York City school lunches and will help build a coalition in schools around the city.

To gain inspiration on how to actualize this concept, we observed organizations and other projects that either addressed school food or crowd sourcing as a tool in understanding school food. The Brooklyn School Food Coalition was our main inspiration in having our project become a platform for building a school food coalition that would help inform policy makers on what the perceptions of school food is in New York City.

'Best and Worst Lunch Photo Wall' was a project about comparing and contrasting visually how school lunches are served throughout the city. This device allows students to identify inconsistencies and opportunities for collaboration. From this project, we decided to adopt a similar lunch comparison feature where any one may post their photos on the website. Also, by providing a ranking system, it would show students preferences in school food choices. This photograph component provides tangible data that is easier to visualize the issue.

The main features of the website includes school food stories, advocacy for the New York City Department of Education's Wellness Policy, Events regarding meetings times for school food coalition building, Resources to find out more about what can be done in regards to school food, and For Educators section that allows teachers to post their school food related curriculum to share with others.

Other features on the website include creating a user account that include username, email, school affiliation and affiliation to school food, ie student, faculty, cafeteria worker, etc. Because the majority of students attending MS328 speaks Spanish, there is a Spanish translator tab that allows the entire website to switch to Spanish. The website integrates into Facebook and Twitter where students would be able to like and comment on posts. Users are able to not only blog about their experiences and opinions about school food, but they are also about to upload photos, videos, powerpoint and documents.

In order to start analyzing the data that is being uploaded to the website, there is a tagging feature for every post that is uploaded. This feature is able to aggregate the various topics that are being discussed in the posts that would be helpful in understanding the salient topics and concerns of the stakeholders.

Our project includes various methods of crowd sourcing: the title, the content, and the surveys. The title, 'School Food For Thought' was voted on by students of MS328; the content is generated by students, faculty, parents and other stakeholders. The content that is generated on the website is moderated by a group of students supervised by faculty.

Challenges

Some of the greatest challenges we had to overcome in this project were our limitations in using the technology. After coming up with a vision of what we thought the website should look like and the features it should have, it was often a challenge learning how to make that a reality using the tools available to us. Tasks that seemed to us like they should be simple, such as moving the site to a new url, took hours of work and several calls to tech support, in addition to untold support from our assistant professor, who offered technical knowledge about how websites that we simply didn't have. Getting the site to look and work exactly as we think it should has been a constant challenge, but we continue learning. Recently, we've added the capability to embed surveys with open-answer capabilities, and embed documents within posts, both features we had once thought impossible.

Technology also proved a significant challenge in working with our client. For one, the teachers and administrators we worked with weren't necessarily web-savvy, requiring some education on our part. Just as it was a challenge for us to overcome the learning curve of Wordpress, it was a challenge for many of the teachers and faculty that we worked with, especially those who were somewhat unfamiliar with how blogs can work. Teaching them was also a challenge for us, considering we had only recently learned to use the technology ourselves. In many instances, it was a challenge just discussing the technology because of all of the jargon like the subtle differences between "embed", "post", "insert," and "upload." This digital language divide made communication with our client even more complicated. On the other hand, students, who constantly use the web and social media, were actually much more familiar with the web, and picked up the site very quickly. Many of the features we imagined, such as students uploading charts and graphs, were beyond some of the teachers' technical ability. After teaching some of the basics, one of the teachers is teaching the basics of excel to students so they will be able to create their own graphs and charts.

Perhaps the biggest technological challenge was the access to it for the teachers and students. In theory, each classroom had a smart board and a laptop for each student. However, when we went to do walkthroughs with students, we found that the reality of the situation for quite different. We were disappointed to find although the classrooms *had* smart boards, a great deal of them were non functional, which caused us to relocate classes at the last minute. When we passed out laptops to the students, we quickly learned that while there might be, say, 30 laptops for 30 students, 5 of those laptops wouldn't turn on. Of the 25 that turned on, only 20 would be able to connect to the Internet. Of the 20 that could connect to the Internet, 10 had outdated browsers that couldn't display the website properly. Most of the laptops had screens so tiny that they were difficult to work with. Our plans for having every student work individually were thwarted by the limitations of technology, which forced to students into working in groups, which brought it's own complications. It was amazing how fast a 40-min period goes by when trying to teach 30 students and troubleshoot 30 computers. Technological challenges weren't limited to the students; we found that even the teachers' computers didn't have the right software to upload to the website, and were painfully slow.

One of the difficulties we had to deal with was teachers' extremely difficult schedules. Because they teach during the day, we often had to interact with them individually in the few minutes they had between classes, and during free periods. Having to deal with the teachers through an intermediary was also a challenge, although there is no way we would have been able to coordinate with all of the teachers without one. We quickly appreciated the difficulty of their job, as they were constantly being pulled in several directions at once, and making time for us was a real challenge. Because of difficult scheduling, most of our meetings with teachers were at the beginning of the process, when we were still formulating ideas. Having the teachers see the website for the first time when we presented to the students was problematic, and if we were to

do it again, we think additional meeting at later stages discussing how best to use the “final product would be helpful.

Getting teachers to incorporate the site into their curriculum was also a challenge, especially since communication with them was so difficult. We tried to build the site so that it could be easily incorporated into the teachers’ existing school-food curricula, but it wasn’t always clear to the teachers how they could use the site in class, as online activities are not something that they typically do. Others did a great job creating in-class activities that got the kids to use the website and share their stories and data. A challenge we’ve overcome is different understanding of the site, both between Fai and us and between Fai and the teachers. One of things that we constantly had to stress was this was not like a typical website where a single Webmaster posted information, but more of an interactive site where many different users, especially the students and teachers could contribute their information to the dialogue.

Moving Forward

As we step back and hand over power of the website to MS328 we want to insure the website becomes a platform that other schools can adopt. The plan moving forward is to place the designated teachers that have allowed us to work with their students in charge of site management. They will be able to use the site as a platform for their curriculum. Students will post their assignments online as often as the teachers see fit and assignment will be administered through the site as well. The site gives students an opportunity to speak about problems but we don’t want to limit the forum to the site. Future development will include an advocacy area where students can write petitions to the Office of School Health. The teachers will also be encouraged to spread their program the same way the Brooklyn Coalition began to help other schools.