

### Technology in the CLASSroom

This Undergraduate Research Opportunity program experience focused on conducting research with Dr. Mark Vagle on the CLASSroom project, which is centered on social class-sensitive teaching practices in the elementary school classroom. I looked at the photostorying component of the CLASSroom project, which is where students took pictures of their home lives/experiences/self, and then wrote about this. Through writing conferences, Dr. Vagle fostered this student writing, and brought social class-sensitive teaching into the classroom. I focused on how using Google Hangouts technology affects the data. In what ways, does this technology influence the creation of social class-sensitive classrooms?

To determine this, I examined video data of this project. I contrasted that with my experience working with students in an elementary school classroom through three semesters of practicum. Dr. Vagle interacted with as many as 10 students at one point over Google hangout and as few as one student. These Hangouts varied from Dr. Vagle teaching a mini lesson (through being projected in the classroom through Google Hangouts), to Dr. Vagle interacting directly with students.

I observed two primary considerations with using Google Hangout technology. One is how it appears to affect the researcher, in this case Dr. Vagle. The other is how it appears to affect the students.

Dr. Vagle was dependent on the classroom teacher to move the camera on the computer in order to interact with and see students. His research was dependent on the audio quality of the classroom computer. If background noise in the classroom was high, then Dr. Vagle had to struggle to hear students. During quiet work time in the background, without any music playing, it was easiest for Dr. Vagle to hear the students. In a regular classroom, without

using Google Hangout technology, one is generally able to hear students even when there is background noise. Technology in this case dictated that the hangouts with Dr. Vagle be scheduled during quieter work time. When Dr. Vagle asked to see student photos, he was limited by the ability of the computer camera to pick up the digital photo on the digital camera. In a classroom without using hangout technology, a teacher could glance at the preview screen on a camera and easily see the image. Instead Dr. Vagle was limited to student description of their picture.

The second main consideration is how using Google hangout technology affect students. Frequently Dr. Vagle asked students to remember what they had just discussed and to continue that in their individual writing work time. In an elementary classroom without using hangout technology, teachers often jot down a few notes on the student paper and ask students to continue writing off of those notes. In this case Dr. Vagle was limited with emailing the classroom teacher post hang out, and having him or her print out these notes for the students. In terms of flow for student writing this proves challenging, as the teacher does not generally have time immediately to print out these notes.

Both the student and researcher struggle when the Internet connection lags, asking for repetition or explaining that they couldn't hear each other. In general audio was the biggest hindrance through using Google hangout technology--the human ear, and also the human eye, are much more powerful than a WebCam and microphone on a computer being streamed over Google hangouts. Although using Google hangout technology allowed these lessons to be taught from more than 1000 miles away, it was also limited by requiring a teacher in the elementary school classroom to facilitate technology limitations.

This UROP experience was a great way for me to be able to learn more about technology in the classroom through first-hand research, rather than simply reading studies on it. I'm very grateful to the University of Minnesota and Dr. Vagle for allowing me to do this research and making it possible. I learned that technology is a tool in the classroom, but it

cannot realistically stand-alone to replace the teacher. That is incredibly valuable research for me to have understood as a future teacher, and will guide me in the future.