
VIDEO INQUIRY PROJECT IN HAITI

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LOPATIN FELLOWSHIP REPORT

Abstract



This report summarizes the preliminary findings from a conducted pilot of students in Port-au-Prince, Haiti. This is a mixed method study that evaluates the six Haitian middle school students and their process up harnessing and developing science inquiry skills, which runs counter to the rote memorization structure found in Haitian schools today. Since the 2010 earthquake, there has been a nationwide attempt to shift the post-colonial education system in Haiti from a top down rote system to more of an inquiry-

based system where students are able to engage in inquiry-based learning and activities to help provide them with tools necessary to help develop and build a new and solid infrastructure in their country. Methodologically, this pilot took the form of a technological intervention with students as well as interviews with educators and administration staff. The overall sense of this pilot is to provide a better understanding of the education environment for both the students and educators.

Background

As a Haitian American, I grew up in Miami, Florida, deep in Haitian tradition and culture. As I have grown older, I understand the value and importance of connecting with Haiti. Through this research I was able to make my first trip to Haiti and make a deep connection, one that I felt I was always missing. Aside from the cultural connection, as a researcher, I am intrigued by the way students respond to and engage with the pedagogical practices of their learning environment. Working with mostly underserved populations, I wanted to investigate the impact of technology on similar populations from a global perspective. I also viewed this research as a chance for comparative analysis as I am running a similar inquiry-based project in East Bay. In order to effectively work and streamline the research process, I found that it was imperative to partner with an education organization that I was familiar with and committed to the importance of the education system in Haiti.

PRODEV



PRODEV is an organization in Haiti that runs a number of schools. I have reached out to the school's administration to be the site I conduct this video inquiry project. Founded on the idea that **“edikayson se sel soliyson”** (education is the only solution”) in Haiti, PRODEV’s work has expanded over time to address the evolving needs of Haiti’s

children (<http://www.prodevhaiti.org/>). In the Spring following the January 2010 earthquake, PRODEV operated 14 elementary schools and eight kindergarten classrooms in tent camps around Port-Au-Prince, running for six months to two years. PRODEV was created by the Haitian people to help educate Haitian children. PRODEV's vision is a Haiti where all citizens have access to education and are empowered to take an active role in building a just and democratic society. PRODEV's mission is to develop, manage and support schools and centers



in underserved communities. PRODEV advocates locally and internationally to promote the idea that only education can create a stronger Haiti.

Research Problem

The education system in Haiti has been hit with difficult times primarily due to the 2010 earthquake. However, even prior to that catastrophic event, the education system suffered from a much deeper systemic problem tied to the lack of funding and an education system shaped by pedagogical practices of rote memorization that yielded low achievement in standardized tests for the majority of students.

Rote memorization in a formal classroom setting takes the form of students learning content through a series of memory-based practices. Students are provided reading passages or mathematical formulas and asked to memorize and produce exact replication of the content. This education model negates the potential of students and educators using an inquiry practices and places a burden on students to recite content. For public school Haitian students rote learning is the foundation of their education experiences and inquiry based education is found in more expensive private schools, which the majority of Haitian families cannot afford. In the past five years, rebuilding efforts have presented Haiti with the opportunity to reshape its education system with a focus on developing a critical thinking based curriculum. The reshaping of the education sector has put Haitians in the position to start looking towards STEM fields as a possibility to create and invigorate an emerging technology sector within the country. According to administrators at PRODEV, the primary goal of Haiti's educational STEM initiatives is to develop students who are able to critically think through and help build and develop Haiti's infrastructure. They believe the foundation of this process lies in providing students at an early age exposure to this inquiry-based system and technology in the classroom.

To address the concerns and stated needs of PRODEV, I believe that the use of video tablet technology can begin the process of creating critically thinking students. With this in mind, my research questions are formed specifically around the application of the video tablet technology as an effective tool for inquiry in Haiti.

Research Design and Methods

Design-based research is defined as a systematic but flexible methodology aimed to improve educational practices through interactive analysis, design, development and implementation, based on collaboration among researchers and practitioners in real world settings and leading to conceptual sensitive design principles and theories (Brown, 1992). The structure of the research provided Haitian students with video-enabled tablets to use in capturing science phenomena and principles around their school campus and guided off-site explorations. Observations and interviews were used to gather detailed data about students' inquiry process and user experiences with both the software and the video tablets.



Participants

The initial pilot was structured with six students, four girls and two boys, who attend Ecole Nouvelle Zoranj. The students come from a low-income, working class community and attend the school due to the assistance of the education non-profit Prodev. These students were a mix of the two sixth grade classrooms on campus and were not tracked in any particular way. They were randomly selected by the administration to be part of the study. However, a primary factor for participation was location, where those who lived near were able to participate due to their proximity to the school site and ability to come to the school to participate in this research.

Research Questions

Broad questions:

Can video and tablet technology allow students to interact and engage, generating questions that will help further their science knowledge?

When specifically looking at practical education intervention, how will video inquiry shape and build curriculum, re-imagine the learning environment where students are able to use the video tablets to capture and reshape the classroom environment?

Haiti Specific questions:

Will video capturing and investigating science phenomena outside the formal rote memorizing environment help Haitian students develop broad critical thinking and inquiry-based skills?

With limited prior technology and social network expertise, can mobile video tablet technology and digital inquiry platforms help foster science inquiry?



Pilot Structure

The pilot was structured into three parts: class discussion, training, and experimentation. Each section provided an insight as to the prior knowledge and expertise that students had acquired through formal and informal experiences.

Class discussion

For the class discussion, students were asked a series of questions that related to how they interacted with technology and to gauge their love or interest in STEM activities and related fields. It became important to investigate through this open discussion how students felt about their comfortability with using technology and what they knew about science and observation. A series of five questions were posed to the group, ranging from personal interest to their views of science or technology's ability to improve themselves or their community. Throughout the discussion section, students were given the space to explain if they felt that the current curriculum or class setting was able to provide enough latitude for them to further explore their potential interest and what interventions they felt could be provided to them to explore their interest.

Training

After class discussions, the students were placed in groups of two, three groups total, and asked to work on a series of worksheets that concerned both the fundamentals of inquiry through the scientific method and how to generate inquiry-based questions from captured videos. From the interview questions, the students had addressed that they were not familiar with the scientific method and have not worked within an inquiry-based model for asking questions. Thus, both these worksheets provide new methods for developing inquiry.

Students were asked to read the eight steps found in the scientific method and to discuss each step with a partner and other group members. For each section,

Continued...

Pilot Structure (Continued)

students were asked to provide an “every day” version of how they apply this method in school or in their community and to also highlight if there were any ways they felt they could improve at the explanation of this method. The latter showed importance for these students because it created a sense of ownership over this new process of inquiry. It became imperative not to have the students just remember the eight steps, but to actively process and possibly make additions, allowing the students the ability to retain and transfer this newly acquired knowledge into the proceeding activity.

Experimentation

After the inquiry training session, the students were handed a tablet and asked to begin the process of capturing science phenomena on the campus. The students were not limited in the video capture. The only instruction provided to the students was that they were to work with a partner and to walk around the campus to find any science phenomena and record a thirty second video. These videos, could be from biology, human biology, earth sciences, or physics; there were no restrictions except for the length of the video. The students were given an hour to walk around campus and asked to make three videos. After gathering these videos, students returned to the classrooms to watch their videos and work on a worksheet that asked specific questions about their experience working with the tablets and rationale for the types of videos that they created. Finally, after the students analyzed and answered a set of questions about their videos, they were asked to watch each other’s video and generate questions based on the video watched.



Table 1: Students interpretations of Scientific Method

THE SCIENTIFIC METHOD MÉTÒD SYANTIFIC	STUDENT INTERPRETATIONS
1) Define a question or problem. Defini yon kestasyon oubyen yon pwoblèm.	“To figure out what you want?” “Find out a problem?”
2) Gather information and resources (observe). Chache enfòmasyon e pi resous (opsèvé).	“Look to see what is happening.” “Get something.”
3) Form a hypothesis. Fòmé yon ipotèz.	“What the idea is.” “Guessing what will happen.”
4) Perform experiments and collect data. Pèfòmé eksperimansyon-yo epi kolekté data yo (Ki vlé di tout sa ou jwen nan eksperimantasyon ou fè yo).	“Look for the problem.” “Making antidote to help cure a disease.”
5) Analyze data. Analizé tout eksperimantasyon sa-yo.	“What helped this work.” “Get the answer.”
6) Interpret data and draw conclusions. Entèpweté eksperimantasyon sa-yo epi fè konklizyo ni.	“Solutions...” “This would be the answer.”
7) Publish results Pibliyé tout rézilta sa-yo.	“Put this in a book.” “Put this in the newspaper for people to read and see it.”
8) Retest. Tout rezilta ou twouvé yo.	“To do it again.” “Start again to make it work.”

Table 2: Students inquiry and reflections

<p>Describe what you have recorded. Dékri yon bagay ké wou te anregistre.</p>	<p>“We found some trees and plants that we did not know about, much about.”</p> <p>“We saw people walking up and down the street, holding water.”</p>
<p>Describe three specific properties/elements you observed in your friend's video. Dékri twa pwopwiyeté de syans oubyien eleman ké wou te obsèvé nan videyo lakay zanmi wou yo.</p>	<p>“I saw the big plants with the bugs climbing.”</p> <p>“I wonder if you can eat those plants?”</p> <p>“The man using a hammer to fix the top of the roof.”</p>
<p>Create two scientific questions from the video you watched. Krèyé dé kesyon syantific nan vidéyo ké wou té gadé-ya.</p>	<p>“How much water is needed to keep the plants alive?”</p> <p>“Where do all those bugs come from?”</p>
<p>Exchange questions from another group and work together to provide an answer. Boukanté kesyon-yo avèk yon lòt timoun épi twavay ansanm pou nou ka poté yon répons.</p>	<p>“Those bugs come the ground.”</p> <p>“The water for the plants, falls every other day to keep them alive.”</p>

Limitations

The initial phases of the pilot provided some interesting findings as to the impact of the video tablets and the nature of inquiry-based activities. The students' engagement in the three phases provided insight as to the promise of shifting from rote memorization to a more inquiry-based format. Unfortunately, the pilot study was interrupted due to the political tensions found in Port-au-Prince. This instability made it difficult to provide a more in-depth data collection set that would provide greater insight into the potential outcomes for using video inquiry and inquiry-based activities within the Haitian school setting. I was, however, able to infer anecdotal outcomes based on the one-day session with Haitian students that I worked with.

It must be made clear that the research was interrupted due to some political instability in Haiti. The research, which comprises of two phases, a pilot phase and the actual research, was interrupted in January when protest arose due to a missed deadline for nationwide elections. This placed the already fragile country in a very tense mode, which ultimately led to the resignation of the prime minister of the country. From a research perspective, this placed a burden on the research and the initial timetable had to be altered in order to account for the shifting climate in Haiti.

Currently, the research has taken the form of Skype meetings with the teachers, students, and administrators. As the political

climate stabilizes, the research team will be able to return to Haiti and conduct the ethnography portions of the research, which includes interviews and observations with the research participants. The primary goal of the second round of research is to work closely with Haitian educators to develop pedagogical practices and curriculum that will guide Haitian students using video-enabled personal tablets to collaborate and produce science inquiry videos. Both pre- and post-interviews of teachers and students, with accompanying surveys and analysis of uploaded science inquiry videos, will be used to gauge students' development and acquisition of the science critical thinking and inquiry skills (Amiel & Reeves, 2008).

Timeline 2014-2015

I will return to Haiti to continue the research in the month of June, I will discuss with the educators and administrators the current pedagogical practices in Haiti. Depending on the technological infrastructure, I will work with the administration to build and install any gaps that would hinder the research project. I will also begin training a research lead and assistant in Haiti to help troubleshoot any technological difficulties that may arise.

During July-August, the political elections in Haiti will take place. During this time school will be out. However, there is some possibility to work with the educators via Skype. During this time, I will work with the school's faculty to develop an inquiry-based curriculum. We will select a classroom group for the six-month project and establish a control and dependent group as well.

Meanwhile, September to the end of February will be the actual project on site in Haiti. During this time, I plan on going to Haiti during Thanksgiving break to check in with the on-site researchers and educators to troubleshoot any problems that may have arisen. While I am at Stanford, I plan on keeping in constant contact with the researchers on site and the educators to transmit data already collected and monitor the status of the project. I will also work with the research assistant to translate the data captured as the project is going on.