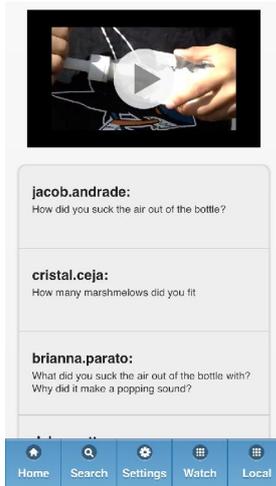


Video Inquiry Project: A pedagogical model to enhance science learning using mobile video capture

Ariel Liu, Rhonda Rosales, Roy Pea, Kareem Edouard, and Jari Multisilta



Introduction:

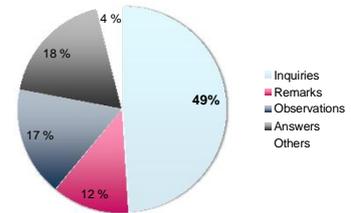
Video can be a powerful tool to provide opportunities for students to ask questions, share perspectives, and develop explanations about real-world events. This study demonstrates a potential pedagogical model and shares some results of how the use of learner-generated video captures scientific phenomena and can provoke greater science inquiry and learning engagement among middle school students.

Aim:

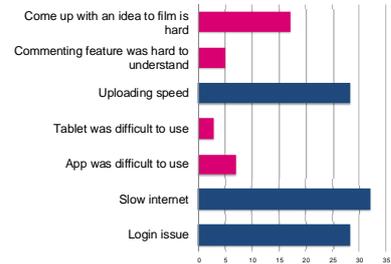
The study aims to teach learners how to “see” scientific aspects of real-world phenomena and encourage them to raise questions that foster engagement in inquiries on STEM topics using mobile video capture, sharing, and web-based knowledge-building tools.

Findings

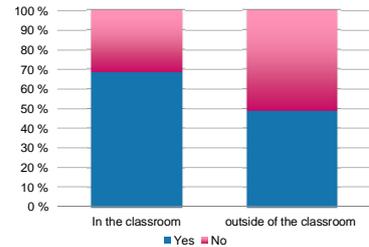
Scientific Observation & Discussion



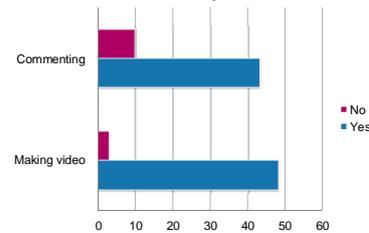
Technology Friction



Science-related discussion



Improve Science Understanding & Digital Literacy



Design-Based Research

We taught the students and teacher how to use the software and the tablet and how to make science-related comments for the project.



The teacher proposed an in-class experiment using the VIP.



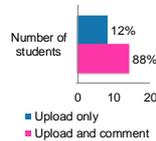
Five students (N=25) were randomly selected to create out-of-class videos every day.



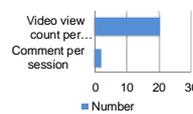
Five students (N=25) were randomly selected to make comments on the videos every day.



User-generated videos created a sense of ownership and social engagement.



High view count, low number of messages



"I want to see their reaction to my video, and read their comments and see what questions they have about my video."

-Student

"It's kind of hard because you sometimes don't get it. You don't know what some people's video is about."

-Student



Methods

- Survey (N=59 students)
- Interviews (N=26 participants)
- Video data (10 hours of audible footage)
- Online forum messages (N=233)
- Total view count of the videos (N=5684 times)
- Student generated videos (N=68 videos)



Research Question

To what extent and in what ways do students use mobile video captures and the commenting features of the web platform for scientific inquiry?

Conclusion

This pedagogical model yielded strong joint engagements that served as an anchor for collaborative science inquiry learning. Both user-generated videos and the students' online forum discussion generated active participation and critical thinking through media capture and annotation, thereby increasing the potential of video as a pedagogical tool to promote engaging learning.