Developing Procedures for Capturing Video and Audio of Small Group Interactions in Large Classroom Data Collection

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Introduction

Classrooms come in different types of styles and settings. For example, lecture style halls are different compared to lab rooms. A lecture style hall might hold about 150 or more students which are packed together. Meanwhile, a lab room might only have approximately 10- 15 students spaced out. Ideally, to collect adequate data in these types of classrooms we must use different strategies to be able to collect the most relevant information. The usage of video cameras is often implemented into classrooms for teachers to be able to look back and review their lesson. It is known as one of the most prominent ways to collect visual and audio data from a large scaled classroom.

The issues related to the collection of data from large scale classrooms vary. While collecting large scaled data from classrooms, sometimes the audio and video captured is not the best. Students might be talking over each other; therefore, it is harder to grasp the big ideas and questions students might be having while they are in groups. It can become a setback for the teacher if they have collected hours of data they cannot use, "A weakness of video data is that one can watch hours of video which turns out to have no relevance to the purpose in hand. One cannot, at least initially, 'skim' as one can when reading (Pirie, Pg. 6).", therefore there must be ways to implement better video capture to avoid this. Throughout this research, the importance of data collection is acknowledged and presented. It is important to try to strengthen the gap in education based on the lack of data received from our classrooms. It may also contribute to revelations of new teaching methods and strategies, but as well the revision of teaching methods that have not worked so well throughout the years.

Methods

In this research , the camera Gear 360, made by the Samsung company, was used to capture the audio and video of a large lecture style university classroom. The camera was able to capture video and audio from all directions in the classroom, and the data was then analyzed to see how effectively it grasped all the information. To analyze its efficiency, I reviewed classroom videos that helped visualized how well it could capture large groups. There was specific attention placed on its audio, camera quality, and transparency which are huge factors that affect the quality of our data. The main goal is to analyze to what extent camera Gear 360 can capture data that could be useful for educators and researchers.

Samsung Camera 360

References:

Pirie, S. E. (1996). Classroom Video-Recording: When, Why and How Does it Offer a Valuable Data Source for Qualitative Research?.
Fitzgerald, A., Hackling, M., & Dawson, V. (2013). Through the viewfinder: Reflecting on the collection and analysis of classroom video data. International Journal of Qualitative Methods, 12(1), 52-64.

Results:

The camera had amazing video capture. The quality of the camera was in 4k which allowed us to see detail clearly. It went as far as capturing student's work and responses from across the room. The 360 features helped the most with the capturing of visual data, the camera was able to watch everything in the room from corner to corner if placed properly. Depending on the lighting around the classroom, worksheets and notes were able to be seen with a wide range of detail. The camera was able to capture sound very well. I could easily hear and understand what a person in the front of the room was saying from the back of the room. While analyzing the video the sound clarity, the professor was heard well in different areas of the room while they were walking around.. The camera has a great mobility option. The camera allows the user to grab and zoom into a certain area within the video. For example, we can zoom into the PowerPoint the professor was presenting in order to better see what the students were learning. We can also zoom into the worksheets or notes students might be working on. This allows us to capture data based on what ideas they wrote down or brainstormed. Based on the placement of the camera, the user might have issues with lighting. I compared the placement of the camera, and the lighting issues based on location. When non – natural lighting was used, this meaning white bulbs versus natural sunlight, at times it was hard for me to see the board which had related information to the lesson.

IMPORTANCE:

The more data captured within classrooms, the easier it is for educators to plan effectively, "Video footage also provides researchers with numerous ways of interpreting the events that have been captured. Video as a research tool opens up a multitude of possibilities in terms of attending to the layers of complexity that are inherent in the acts of teaching and learning (Fitzgerald, Hackling, & Dawson, Pg.7) ." An educator can learn about the struggle's students might face in class.