

**Producing Virtual Field Trips for the Agricultural Classroom**

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### **Introduction/Need for Innovation**

Face-to-face field trips are effective ways to engage students and provide firsthand knowledge gathered from such an experience (Behrendt & Franklin, 2014). However, traditional face-to-face field trips require time and financial resources, making these excursions a scarcity in underfunded schools. Geographic location, biohazard concerns, and logistics are other challenges that face agricultural teachers who desire to provide specialized field trip experiences to their students. Some teachers turn to digital content, which is a powerful and less expensive alternative to face-to-face fieldtrips (Isiaka, 2007). Studies have shown there is no significant statistical difference in the effectiveness of face-to-face learning versus face-to-screen learning (Dannenbreg & Capell, 1997; Kumar, Sharm, & Vyas, 2003; Moore & Kearsly, 1996). Merely accessing video content is not a problem, but accessing specific content built around the needs of students is what can be a challenge. Sifting through websites, YouTube videos, and Vlog feeds can take hours and useable results can vary.

This problem is being addressed at the University of Minnesota – Twin Cities (UMN) where students are developing educational specific virtual field trips for agriculture. This endeavor aims to streamline and focus teacher preparation time by providing access to unique locations, insights from industry professionals, and relay current information from research scientists. Virtual technologies offer the opportunities to expose agricultural students to a plethora of experiences outside of their local communities. In addition, these technologies can strengthen the instruction of agricultural teachers who lack expertise in specific areas. As with any effective educational activity, the success of a virtual field trip relies on the design, the delivery, and how it is conducted (Isiaka, 2007). Components of an effective virtual field trip include a structure with multiple touch points including pre and post field trip activities (Woerner, 1999). This allows for more exposure to variable content, as well as learner assessment opportunities.

### **How it Works/Methods/Steps**

UMN agricultural education and communication students produced a pilot virtual fieldtrip. It was formatted using three specific touch points for classroom use. The first touch point was a pre field trip experience in the form of an archived video interview with a professional from the Minnesota Turkey Growers Association. The topics discussed were driven by agricultural education student teacher candidates and focused on exploring a career in agriculture advocacy. The student teacher candidates developed the interview script and conducted the interview based on the information they felt was relevant to the classroom. This touch point provided information prior to the field trip in order to produce more informed inquiry during the online experience.

The second touch point was the actual virtual field trip where UMN agricultural communication students assisted in the production of the event. Collaboration with the Minnesota Department of Agriculture and Minnesota Ag in the Classroom made the event possible by gaining access to the location. The selection of the farm was based on proximity to campus and the turkey farmer's advocacy experience. During the live-stream, classroom teachers were able to access the experience via Facebook Live. Classroom students and other observers were able to ask questions in real time as the host farmer conducted a tour of the farm. Questions were moderated by the off camera video producers. At the conclusion of the live broadcast, a video archive was produced and posted to provide opportunities for students to review at their own pace.

During the fieldtrip, a team of UMN agricultural communication students worked behind-the-scenes to gather additional digital content in the form of video interviews, B-roll, still images, and audio files. This content was captured and organized into “Asset Bins.” The Asset Bins served as a third touch point for this virtual field trip experience. The acquired digital content could be used to mirror the FFA Ag Communication Career Development Event (CDE), where students are to complete a video edit with provided media. This activity was a way for students who have experienced the virtual field trip to create a video communication artifact that projects what they have learned, highlights specifics about the industry or even pose new questions. The potential for sharing this type of media output was also present in this activity.

This structure has provided many areas for UMN agricultural communication and education students to apply what they have learned in the classroom. Learning theory, assessment techniques, and engagement theory were a few of the ways agricultural education students could view the potential when designing. Agricultural communication students applied field production, client based work, and relied heavily on the stages of the production cycle: Development, Pre-Production, Production, Post-Production and Distribution.

### **Results to Date/Implications**

The production of the pilot field trip is complete and current agricultural student teachers are implementing this content in the archived format. The student teachers will be reporting back on their impression and experience using this in the classroom. Application, feasibility, and overall perception of student learning and engagement will be discussed with these student teachers in individual interviews once they return to the UMN from their student teaching assignments.

### **Future Plans/Advice to Others**

The findings and recommendations gained from the student teachers using these materials will be implemented into future virtual field trip productions that will be produced in a dedicated agricultural communication video production course. Advice to those interested in producing this type of activity would be to look for partnerships to gain access to a variety of locations. Location scouting prior to the virtual field trip is a necessary activity to test technology, trouble shoot and develop a live production plan for the location. Pre-production meetings are encouraged to solidify crew duties, interview scripts, linkage of content to licensure requirements, as well as bring the host farmer up to speed on the live broadcast production needs.

### **Costs/Resources Needed**

The cost of producing a virtual field trip can vary. Smart phones/tablets (free to \$1000) with data plans or Wi-Fi connections can work with Facebook Live (free). There are many other free alternatives to Facebook Live, including YouTube Live or Periscope. Transportation to and from campus for students can vary depending upon distance and vehicle needs. Post-production editing can be completed on smart phones/tablets with free editing software such as Splice or low cost apps such as Lumafusion (\$20). DaVinci Resolve (free) is editing software for laptop and desktop computers or you can buy other software in the range of a \$5/month subscription from WeVideo to \$200 for Final Cut Pro X. The Asset Bins are stored in a Google Drive (free) and the archived field trip and videos are stored on a dedicated YouTube (free) channel.

**References**

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