OHIO STATE UNIVERSITY EXTENSION

CFAES

iFarm Immersive Theatre

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INTRODUCTION

Virtual Reality for Agriculture Extension Programming

Since 2018, a team of OSU Extension educators have been utilizing virtual reality, or 360-degree videos, to engage their clientele. In 2020, these VR educational videos reached over 19,000 participants online. In order to continue the success established in 2020 with VR programming, the iFarm Immersive Theatre was developed in 2021 to safely immerse clientele in VR experiences at agricultural trade shows, field days, county fairs, and school visits.

The iFarm Immersive Theatre has the capability to immersive participants in VR experiences without the use of individual virtual reality goggles. This immersive theatre projects 360-degree videos onto an inflatable dome, which results in an experience similar to an IMAX Theater or a planetarium. However, all of the experiences were created by OSU Extension staff and featured agricultural production in Ohio.

Rather than taking busses of people to farms, the iFarm Immersive Theatre offers a unique opportunity to bring the farm to audiences anywhere within driving distance through the use of immersive technologies. These kinds of immersive technologies may become a viable tool to connect consumers with agricultural producers. This study was undertaken to determine if immersive theatres are a viable option to use for agricultural education and communication campaigns.

Participants viewing one of the 18 different virtual experiences available at the 2021 Farm Science Review in the iFarm Immersive Theatre.

THORETICAL FRAMEWORK

Immersive Theatre and Virtual Reality

While relatively new in the agriculture industry, immersive technologies have been used in a variety of other sectors, in particular the entertainment industry.

The COVID-19 pandemic has changed how consumers perceive VR technologies. “Today, customers are less customers are less hesitant to actively implement AR and VR in education” (Vardomatski, 2021, p. 1). Agricultural education researchers have found that trends in ag education are “dynamic and flexible” to change with the times, and therefore, “VR technology holds much potential for inclusion into the teaching and learning process in agricultural education settings” (Wells, 2019, page 11). The use of immersive theatres and VR headsets allow the viewer to visit farms, experience first-hand views of spaces that humans may not be able to physically go (for instance inside a bee hive), and “implement useful hands-on activities that can benefit the teaching and learning process” (Wells, 2019, p. 17).

PURPOSE AND OBJECTIVES

A research study was conducted at the Farm Science Review to gauge the impact of the new immersive theatre technology for educational programming. The purpose of this study was to determine whether this format of digital, immersive experiences is an effective tool for agricultural education and communication. Three research questions were developed to guide the researcher in their endeavors:

RQ1: Are immersive experiences a good way to reach audiences with educational materials related to agriculture?

RQ2: Would participants recommend the immersive theatre experience to others?

RQ3: What kinds of VR experiences were beginning, young, and small farmers most interested in?

METHODS

A survey was conducted of participants to better understand the impacts of this educational technology. This research had IRB approval. Surveys were distributed to all participants via Qualtrics QR codes, or paper surveys, at the conclusion of each immersive experience screening during the 2021 FSR. Participants viewed one of the 18 different VR videos created for the Farm Science Review in the iFarm Immersive Theatre. Participants were encouraged to complete the survey but were provided no incentives to participate. Respondents were asked to provide their demographic information related to age, zip code, and connection to the agricultural industry. Qualitative questions were asked for the respondent to describe their experience with the iFarm Immersive Theatre and to describe what they learned from the experience. The survey yielded 158 responses for an 18.35 percent response rate. Qualitative and quantitative data analysis was conducted.

iFarm Immersive Theatre Demonstration

Scan the QR code to view a video of the iFarm Immersive Theatre in action. The video show segments from the Farm Science Review, school visits, as well as an agricultural field day.

RESULTS

Over the course of the three-day trade show, 157 screening sessions were held. There were 861 participants who viewed the screenings, which was an average of 5.48 participants per screening. The median age of the respondents was 35.4 years old. There was no correlation between the age of the respondents and their perception of the immersive theatre. When asked if they would recommend the iFarm Immersive Theatre to others, 96.1 percent of respondents indicated they would recommend the experience to others. Two-thirds of respondents stated they learned from the experience.

Qualitative responses indicated that virtual experiences that were unique (like riding in an airplane) were more engaging and memorable than more commonplace, or everyday scenes. Many participants discussed the key facts they learned, the different perspectives they were able to view from the experience, the unique immersive viewing experience, and how this system was a “fun future of video and education.”

The majority, 96.1 percent, of respondents stated they would recommend the iFarm Immersive Theatre to others. There were no significant differences in the perceptions of participants based on age, zip code, or their connection to the agricultural industry. Two-thirds of respondents indicated they learned something from the immersive experience they viewed.

Participants were asked to provide any additional feedback they had for the iFarm Immersive Theatre system. Below are a selection of their responses:

“Fantastic presentation of agriculture!”

“Fantastic! Fun future of video and education. Extension is lucky to have this and the talent to make it happen.”

“It is a fun way to immerse non-farmers in agricultural education. Thank you!”

CONCLUSIONS

The iFarm Immersive Theatre offered participants the opportunity to see agriculture from a different perspective. This immersive theatre offered researchers the opportunity to see communication and education techniques from a new angle as well. This study provided insight on how immersive theatres are interpreted by the public at large-scale agricultural trade shows.

The conclusions from this study show that immersive theatres are an effective way to communicate and educate agricultural topics. The majority, 96.1 percent, of respondents stated they would recommend the iFarm Immersive Theatre to others. There were no significant differences in the perceptions of participants based on age, zip code, or their connection to the agricultural industry. Two-thirds of respondents indicated they learned something from the immersive experience they viewed.

Participants were most engaged and could discuss more details about the experiences that were unique and not a typical occurrence on a farm. When the setting or plot of the experience was unique, it increased the viewer’s engagement to learn more. Many respondents provided detailed statements about what they learned when they were presented with a unique experience. Respondents also commented on the immersive environment they experienced.

This study demonstrates that immersive theatres are an effective way to communicate and educate agricultural topics. Immersive theatres present viewers with the ability to see agriculture from a new perspective and simultaneously engage with others for a social viewing experience.

RECOMMENDATIONS FOR FUTURE RESEARCH

Immersive theatres provide an opportunity for Extension Educators to be able to create immersive experiences for further research evaluation and teaching opportunities. The iFarm Immersive Theatre used in this study is a mobile system. This allows for the theatre to travel to a variety of locations to reach diverse audiences in rural and urban areas. Future research should be conducted on a nationally representative sample to determine if the findings of this study are regional or representative of the American population. An increased variety of experiences and genres would also be beneficial to expand the knowledge base.

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