

# Using Virtual Reality (VR) To Teach Sport Venue Management

Mihalik, Brian Johnathan; Mihalik, Linda Louann

University of South Carolina, USA

E-mail: bmihalik@hrsm.sc.edu

## Aim of the project

The main objective of this project is to examine the feasibility of using virtual reality (VR) as a tool for experiential learning of sport venue management. VR is heavily promoted in the American marketplace. Faculty and students should be exposed to this medium and understand its capability for studying sports facility management and operations.

While VR has been discussed in education since the 1960s, it has begun to gain momentum as a viable, engaging, immersive education delivery mechanism as the technology advances and the cost of viewing devices decreases. Specifically, this project will examine strengths and weaknesses of VR as an educational tool to promote understanding of facility management. The presenters selected one of the largest sports complexes in the southeastern United States to exhibit VR capability. The primary users of this complex are traveling American youth teams participating in basketball, volleyball, soccer, lacrosse, gymnastics, beach volleyball or baseball competitions.

## Theoretical background

Chen (1998) stated constructivism theory emphasized the combination of inputs from the senses, existing knowledge, and new information to develop a better and deeper understanding through active authentic and immersive learning activities. Jonassen, Hernandez-Serrano and Choi (2000) believed that virtual reality was well suited for providing exploratory learning environments which enabled students to learn through experimentation.

This project's content creation is justified by Helms (2013) who wrote that traveling youth sports are recession resistant and created a \$7 billion economic impact. Further, youth sports and especially traveling teams, requires new facilities construction. As such there is a significant growth in the construction and management of youth sports facilities that can sustain large scale youth competitions. Hollander, as quoted by Mark Koba (2014), noted "youth sport tourism wasn't even a travel category four years ago, but now is the fastest growing segment in travel."

The educational challenge is to have students experience mega youth sports facilities without the cost or time of traveling to these locations. Thus, the authors have produced VR content of a rural sports complex to provide students an immersive experience of these facilities from anywhere.

## Methodology and analysis

This project explores the development and use of VR content captured with a Rico Theta S 360 camera and rendered on a computer and a Samsung Galaxy S7 smartphone in VR goggles. The camera produced spherical images which were uploaded to a computer, processed and posted for viewing. Content can be rendered and manipulated as a 360 image on computer screens or by using a smartphone app with goggles. Viewers can move around the scenes, concentrating on areas of interest to understand topics such as relative location of services, revenue generators, spectator flow and facility preparation and maintenance

Short videos and images were shared with faculty and students across majors to gauge usability of the technology. Informal, positive feedback encouraged the authors to visit a mega-sports complex and record content at various sporting events.

A walking tour of the baseball complex was created for Youtube. A survey to assess the student's ability to observe opportunities for revenue generation and venue amenities was created. Students will view the 360 video and then participate in the survey. The survey will be administered in two classes prior to the conference.

## Results, discussion and implications

Benefits and short-comings of VR were identified. Minimal training and cost (\$350 USD) are required for faculty and students to create their own VR content, although technical support is not readily available at this time. Sharing content is more challenging. Future enhancements to technology should correct the current shortcomings of VR.

While audio and video quality is not professional, all viewers to date found the recordings acceptable and engaging. Students were receptive to a novel approach to learning and reacted to the content. However, individuals prone to seizures or dizziness must limit or avoid use.

Multiple spherical two-dimensional stills and videos of a youth sports complex were created for viewing from any location. Session attendees will be exposed to these recordings to exhibit VR capability and the results of the student surveys shared.

VR has the potential to provide a cost effective option for studying a venue without physically being present. It will be possible for students to experience such sporting events as Wimbledon or the Masters from the dorm room or classroom, or understand the facilities required to host a baseball or softball tournament with over 100 teams, 1,500 athletes and thousands of parents and college scouts.

## References

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