



TEACHING AND TECHNOLOGY

by Ashley Scott

Virtual Reality in Higher Education Instruction and Construction

Virtual reality (VR), the immersive learning tool that is finally making its way into almost every university, has actually been around for quite some time.

The History of Virtual Reality

Defined by the Virtual Reality Society, “Virtual reality is the term used to describe a three-dimensional, computer generated environment which can be explored and interacted with by a person. That person becomes part of this virtual world or is immersed within this environment and whilst there, is able to manipulate objects or perform a series of actions.” As technology began to advance, so did its wonder and the excitement of its potential opportunities.

Cinematographer Morton Helig believed that audiences would be more captivated by stories if their senses were stimulated, promoting him to create the Sensorama in 1957. The Sensorama, although not interactive, offered an immersive experience that

included multisensory stimulation to pull viewers into a virtual world. Helig went as far as including oscillating fans, audio speakers, as well as odor emitters.

However, as Srivastava et al. explain, it wasn't until 1961 that the first VR head-mounted display (HMD), Headsight, was created by two Philco Corporation engineers. Headsight included a video screen as well as a tracking system which was linked to a close circuit camera system. This virtual reality display was used in military training operations and its purpose was to place the user in a dangerous but simulated situation.

Thirty years later, this immersive, interactive experience was coined "virtual reality." The term virtual reality was created by Jaron Lanier, whose company VPL Research, was the first of a few companies to sell virtual reality tools.

How Virtual Reality is Being Used in Higher Education

Because of VR's capability to immerse and engage all users in what they are learning, VR headsets and labs can commonly be found in university classrooms, media centers, libraries, and makerspaces.

Virtual reality helps students feel immersed in an experience, gripping their imagination and stimulating thought in ways not possible with traditional books, pictures or videos, and facilitates a far higher level of knowledge retention.

VR has been used to teach a variety of subjects all the way from astronomy and biology to history and social studies. For example, a 2017 piece called "How Virtual Reality Could Transform Higher Education," the authors describe students at the University of Westminster who are practicing building a murder case by searching for clues in the school's virtual space built for students studying criminal law.

This learning tool has the ability to fully immerse the user in another environment that may not otherwise be possible. The 2017 post on "ClassVR" notes, "Virtual reality helps students feel immersed in an experience, gripping their imagination and stimulating thought in ways

not possible with traditional books, pictures or videos, and facilitates a far higher level of knowledge retention."

VR Tools at Duke University

Another use of virtual reality has been in the medical field. Many universities now offer virtual reality headsets so that students studying anatomy can inspect organs and other components of the body with the help of 3-dimensional figures shown through virtual reality. Duke University, however, uses it differently.

Duke Faculty Practice offers a Virtual Reality Treatment Program that is used as therapy to help treat anxiety disorders. Anxiety disorders that the Treatment Program is used

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for include the fear of heights, elevators, thunderstorms, public speaking and flying. As explained on Duke’s website, VR therapy can offer increased safety and control, more efficient treatment, and less risk to patient confidentiality—in addition to many other benefits.

Virtually Visiting Universities

With virtual reality’s breakthrough in technology, it is clear that new experiences are possible like never before. For example, VR can commonly be found on university recruitment pages.

The 2017 piece “Virtual Reality, Real Rewards In Higher Education” describes how many colleges across the U.S. offer virtual tours of their campus letting viewers see lecture halls, dorm rooms, and more.

For instance, according to the source, more than 30,000 people have visited Northern Arizona State University through its 360-degree virtual campus tour and more than 4,000 of the individuals who had participated in the virtual tour have made some sort of contact with the university.

In addition, virtual reality tours can help gain prospective student interest, save money in recruitment, and allow prospective students who are located in a different state or region, tour a campus from the comfort of their own homes.

Captivating Learners

Whether virtual reality is being used by students to tour multiple universities in one day or used to learn anatomy and travel to ancient pyramids, the benefits to students are clear.

VR, with the unique experience it offers, can engage students in ways that make learning new information more enjoyable. “Class VR” explains, “Enhancing and extending the learning experience is at the heart of what Virtual Reality can offer students, and is possibly one of the most powerful of all technologies that could help change how we learn forever.”

In other words, VR engages students in the classroom unlike any other ways we have seen before. It offers the chance to captivate learners and, just as importantly, helps students remember what they learned.



ABOUT THE AUTHOR: Ashley Scott is the Content Coordinator at Spectrum Industries Inc., a niche furniture manufacturer. Scott writes case studies, white papers, press releases, articles, blog posts, and manages Spectrum’s social media platforms.



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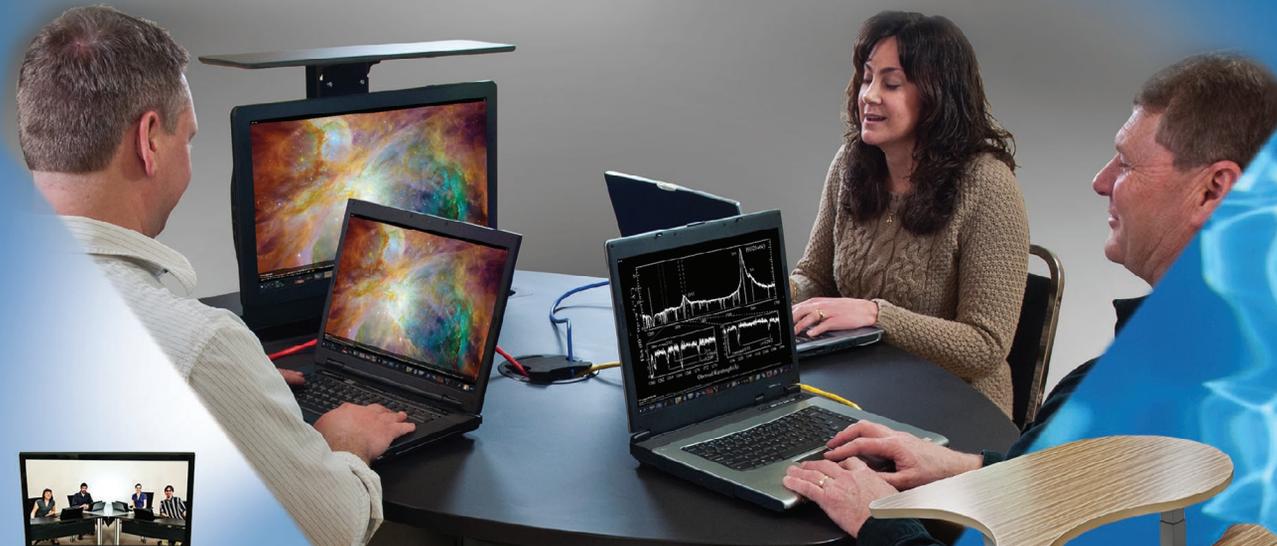
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