

Tackling Medical School Training Challenges with Virtual Reality

For Immediate Release

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(Peoria, Ill. | November 18, 2020) - Even before the first cases of COVID-19 hit the United States, leaders in medical education at the Illinois College of Medicine at Peoria (UICOMP) and at OSF HealthCare's Jump Education and Simulation Center in Peoria were preparing better ways to teach medical students and health professionals.

With the pandemic, the need for alternative training will become all the more valuable because medical students cannot always participate in bedside rounds or assist in surgeries and learn from real-live scenarios how to diagnose critically-ill patients and intervene in a variety of medical situations.

Dr. Teresa Riech (pronounced Reesh) is sharing [a poster presentation](#) at the [Association of American Medical Colleges](#) 2020 Annual Meeting this week. Dr. Anthony Fauci will be a speaker at the national, virtual conference for the association dedicated to Innovative medical education, cutting-edge patient care, and groundbreaking medical research.

Dr. Riech worked with a team from UICOMP and Jump Simulation and Education including: Dr. Matthew Mischler, Dr. Matthew Bramlet, Dr. William Bond, Kim Cooley and Jeremy McGarvey. They investigated the use of virtual reality as a training tool to help medical students diagnose critically-ill patients. Their initial cohort of 20 patients were volunteer medical students from UICOMP.

"There is a real value in experiential learning and with today's reality, COVID-19 makes it very challenging to connect medical students, and in some cases medical residents, with real life scenarios to test their ability to assess patients and make critically important decisions about their care," according to Dr. Riech.

The study involved the creation of two virtual reality (VR) cases: an adult with unstable heart rhythm and a child with difficulty breathing. Specially-trained actors were video recorded playing the role of the patients presenting with signs and symptoms of distress, and this was embedded in the [Enduvo VR platform](#). Lectures were built into the modules and med students were able to proceed through the cases at their own pace while being provided immediate feedback on answers to questions.

Results showed:

- Learners rated VR equal to or better than traditional lecture.
- Medical students took the opportunity to review the material carefully, remaining in the learning environment well beyond recorded time (not an option in traditional lecture).
- The Immersive nature minimizes distraction. Not one student checked their phone to answer a text or look at a notification while wearing the VR headset.
- The cases recorded separately by different instructors resulted in final modules that were within 8 seconds in length suggesting the template could be used for future case development.

The training also helped build students' confidence. Before the lessons, only 5% expressed complete confidence in their ability to assess and provide the right treatment. Forty-five percent reported feeling completely confident in their skills after the VR lessons, 55% of students felt somewhat confident, and no students rated themselves as 'not at all confident'.

Riech says this type of training seems to offer an advantage over classroom learning with students who are digital natives, easily distracted by their phones and computers. Researchers were fascinated by the results of testing the content-rich, interactive, and virtual experiences for students.

"There is much less eye contact now in the classroom. Truthfully, it is a very different culture than from when I started teaching many years ago. In the digital age, this is how we keep learner attention most effectively," according to Riech. She added, "Medical students are not going to listen to me for 30 minutes or certainly not for an hour but when you flip the classroom and they have control over it, it's a very different outcome."

Riech sees expanded opportunities for this type of teaching, especially when the Enduvo platform is upgraded to allow VR lessons on tablets and personal computers, without the need for headsets.

Disclosures: Dr. Matthew Bramlet, who was among the researchers on the project is the founder and a board member of Enduvo, Inc. Dr. Riech serves as a medical and military training advisor for Enduvo, Inc.

For additional assets, including photos of VR images please visit the OSF HealthCare Newsroom at <https://newsroom.osfhealthcare.org/>

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Jump Simulation, a part of OSF Innovation, is a collaboration between the University of Illinois College of Medicine Peoria and Peoria-based OSF HealthCare. The center replicates a variety of patient care settings to ensure novice and seasoned clinicians can practice medical situations in a life-like environment. Boasting six floors and 168,000 square feet, the center is one of the largest of its kind and provides space for conferences, anatomic training, virtual reality and innovation. More information at jumpsimulation.org.

OSF HealthCare is an integrated health system owned and operated by The Sisters of the Third Order of St. Francis, headquartered in Peoria, Illinois. OSF HealthCare employs more than 23,600 Mission Partners in 147 locations, including 14 hospitals –10 acute care, 4 critical access – with 2,097 licensed beds, and 2 colleges of nursing throughout Illinois and Michigan. The OSF HealthCare physician network employs more than 1,500 primary care, specialist and advanced practice providers. OSF HealthCare, through OSF Home Care Services, operates an extensive network of home health and hospice services. It also owns Pointcore, Inc., comprised of health care-related businesses and OSF HealthCare Foundation, the philanthropic arm for the organization; and OSF Ventures, which provides investment capital for promising health care innovation startups. More at osfhealthcare.org.