

UMSAEP UM-UWC Linkage Report

Visit to Missouri, USA from 1 March 2019 to 17 March 2019

Project Title: Exploring the role of augmented and virtual reality in Health Professions Education

By: Simone Titus
Teaching and Learning Specialist
Faculty of Community and Health Sciences
University of the Western Cape

UMSL Host: Prof Andy Goodman
Associate Provost for Professional Development
Director, Center for Teaching and Learning

UM- Columbia Hosts: Prof Daniele Oprean and Prof Xinhao Xu
Assistant Professors
School of Information Science & Learning Technology
College of Education

1. Overview

The purpose of this visit was to explore the use of Virtual Reality and Augmented Reality in Health Professions Education at the University of Missouri. I was fortunate enough to secure visits to two campuses, namely- the campus in St Louis and the other in Columbia. Both campuses are remarkably different in various ways. For the first week of my visit, I was hosted by Prof Andy Goodman and his colleagues in the Center for Teaching and Learning in St Louis. During the second week I was hosted by Profs Danielle Oprean and Xinhao Xu in the School of Information Science and Learning Technology in Columbia.

2. Description of Linkage Activities

Augmented The effective development of interprofessional core competencies within health professions education remains a challenge within the higher education context in South Africa and abroad. Whilst virtual and augmented reality has become embedded in some of our everyday practices, the role of AR and VR has been underexplored in the higher education context in South Africa. Augmented and Virtual Reality experiences may offer learning and teaching opportunities where interprofessional core competencies may be embedded in a virtual space. Therefore, developing innovative and creating ubiquitous learning environments with limited resources is well worth academic scrutiny. Thus, the purpose of this exchange is to explore the role of augmented and virtual reality in Health Professions education. Furthermore, the purpose of this collaborative exchange project will be to explore other innovative learning and teaching

practices, using virtual reality and augmented reality in Health Professions Education at the University of Missouri.

To this end, I was privileged to attend various seminars (both virtual and face-to-face) and visited many different faculties who are doing work in AR and VR. Below are some of the activities I attended at the two campuses;

UMSL

- Met individually with all of the staff in the Centre for Learning and Teaching. Each staff member's portfolio was different and I was able to learn something new from each of them in each meeting.
- I attended a tour of Nursing Simulation Lab with Prof **Melissa Ehmke**, Assistant Teaching Professor at Seton Hall
- I attended a tour of E. Desmond Lee Technology and Learning Centre (TLC) and met with TLC staff and Educational Technology faculty
- I sat in on an *Online in 9* session facilitated by Gretchen and Dasha. This was useful and I plan to implement this model at my university. Prof Goodman is facilitating the process of assisting me with capacity building to do this.
- I had an online meeting with Prof **Anni Reinking**, Assistant Professor, Early Childhood Education, Department of Teaching and Learning, School of Education Health and Human Behavior, SIUE about the use of VR at [Southern Illinois University-Edwardsville](#)
- Attended a meeting with Prof **Allison Brauch**, Assistant Teaching Professor, College of Nursing on *Tele-medicine*
- I met with colleagues from the College of Arts & Sciences Conference Room on a possible project on *Digital Humanities*
- I met with Gualtiero Piccinini, UMSL Philosophy to listen to his work on Computational Thinking
- I had an online meeting with **Michelle Ehlert**, Senior Learning Designer, School of Adult & Online Education, Maryville University about the use of VR at [Maryville University](#)
- I met with **Lindsay Meador**, from the [Teaching Center](#), Washington University.
- I sat in on the CTL Staff Meeting to participate in a discussion of the [gamification article](#) which was part of their weekly journal reading.
- I visited the Collabiat centre to better understand how thinktanks for the purpose of learning can be developed.

UM- Columbia

- Met with Kasey Clay on the use of VR for teaching children with autism
- Attended a group project meeting on VR, Virtual 3D worlds and Unity with Xinhao and his students
- Visited the engineering department to look at their projects in VR
- Met with some of the staff members in their department to better understand their work in Educational Technology and Library Science
- Met with a PhD student who does work in AR and VR rooms (vTimeXR)

- Visited the Adroit studios where immersive digital games were developed for learning in schools
- Attended two VR club meetings
- Visited the iLAB where they conduct various projects in VR

As can be seen, it was a very fruitful visit and I was exposed to various technologies I would not ordinarily be exposed to. As someone who is an educationist, not a computer engineer, this visit was exciting and it broadened my thinking and ideas for health professions education.

3. Outcomes

- I have submitted a proposal for grant funding to pursue collaborative research in this area.
- I have obtained 10 licenses to use Unity 3D software to develop some educational materials
- As an academic, I have gained new knowledge in the use of AR and VR in the education space.

I wish to thank all the staff who I have met during this time for their kindness and hospitality. Thank you to UM and UWC for giving me this opportunity to learn and grow.

4. Photo Material







