Perkins Grant Application 2017-2018
Virtual Reality Equipment for Learning
Narrative Description of Proposal

Imagine students being able to have a self-guided experience focused on their favorite subject or studies. Through the use of virtual reality (VR) technologies and the haptic feedback they provide, objects and equipment that are not easily accessible or too dangerous to interact with can be used, studied or analyzed. The technologies can also be used to visit and interact with far away places. VR hardware and software will be used to create an immersive environment where our students can see the objects and details discussed in class in a safe, computer-generated environment, thus offering a learning experience that is beyond the confines of a traditional classroom. The National Science Foundation concludes, "As a general principle VR [Virtual Reality] improves learning; when it does, by providing the learners with new, direct experiences of phenomena they could not have experienced before, either in direct interaction with the real world or using other technologies." (Reid & Sykes, 2016) This proposal outlines the specifications and pedagogical benefits of using virtual reality technologies as a career and workforce development tool.

In the past few years VR has played an increasingly important role in academic research, engineering, design, business, defense, the arts, and entertainment. While VR has long been associated with the gaming industry, major companies such as Ford and Lowe's are beginning to deploy VR technologies to provide a more immersive user experience for both employees and customers (Lopez, 2016). VR can improve upon product design, enhance data visualization, and support employee training and collaboration. Additionally, news media outlets, most notably the *New York Times,* are actively exploring the use of 360 video to enhance storytelling (Wang, 2015). Students can immerse themselves in 3D environments that complement learning objectives and enrich their learning experience. For example, a student can take an engaging tour of a famous museum or immerse themselves in cutting edge simulations that were never before possible. Providing and supporting VR equipment and software on our campus offers our students a powerful opportunity to enhance their job skills, expand their knowledge, and through the use of simulations, promote a deeper understanding of a variety of subjects.

The next generation of college students are already experiencing virtual reality scenarios in their educational settings and everyday world. The availability of VR equipment and software would provide faculty with the tools to create new curriculum and experiences, update learning outcomes, and use state-of-the-art technology.

If funded for 2017-2018 our objectives are to:

- Develop in MCC students the skills necessary to deploy and use VR technologies in the workplace.
- Promote mastery of course learning objectives through the immersive experiences provided by VR technologies.
- Ensure that relevant faculty and staff have opportunities to learn about the uses and benefits of VR technologies as pedagogical and workforce development tools.
- Grow a cohort of MCC faculty and staff with in-depth knowledge of VR equipment and trends in VR technologies that can serve as a resource to students.

Fulfilling these objectives would address the following core indicators for 2017-2018:
1P1: Technical Skill Attainment; 4P1: Student Placement; 5P1: Nontraditional Participation

References:

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