2018-2019 CFE/Lenovo Instructional Innovation Grant Awards – Project Summaries

Project Title: The Digital Muse Meets the Scholarly Essay
Principal Investigators: Daniel Anderson & Grant Glass
Academic Unit: Department of English and Comparative Literature
This project involves training undergraduate and graduate students to strategically mix media elements for scholarly purposes by employing the technologies Adobe Spark Pages and Muse. In this project, The Digital Muse will create five modules to guide students toward employing these new composing tools in ways that are not only rhetorically sophisticated but also transformative of familiar academic modes. Modules will include assignments, resources, sample projects, and screen-based instructional videos.

Project Title: Engaging Students and Faculty with Augmented and Virtual Reality for Learning
Principal Investigators: Lisa Dawley and Derek Creason
Academic Unit: School of Education
PIs will develop a series of onsite and online workshops that offer strategies for successfully integrating augmented reality and virtual reality into curriculum. Workshop goals will include an introduction to enhanced reality environments and technology, increasing awareness about available AV/VR content (e.g. effective use of VR field trips for learning, use of AR/VR in STEAM-related content areas), and an orientation for faculty interested in creating their own VR content.

Project Title: Leveraging Digital Technologies for Cherokee Language Learning
Principal Investigators: Ben Frey PhD & Michelle Robinson PhD
Academic Unit: Department of American Studies
This project in applied language revitalization will integrate parallel text concordance software to strengthen capacities for language acquisition, produce original linguistic data about the Cherokee language, and empower students to compose their own stories in Cherokee in the Cherokee course series. Computer-assisted translation tools will also allow students to engage in much-needed translation work. Parallel text concordance software, such as AntPConc, can identify sentence-structure conventions that are unique to the Cherokee language. Through long-term collaborations, this project will yield a foreign language "text reader" and radically reduce translation time.

Project Title: Clear as Glass: Using Innovative Lightboard Technology for Online Instruction
Principal Investigators: Barrie Hayes and Fran Allegri
Academic Unit: Health Sciences Library
The Lightboard installation at the Health Sciences Library will provide a core tool for creating instructional videos in courses that are whiteboard-intensive. This technology is particularly useful for courses where formulas, diagrams, or whiteboard drawing are used extensively. Additional imagery (e.g., maps, code samples) can be incorporated into presentations with the video editing software being requested as part of this proposal. The Lightboard studio will be a shared resource for all courses and instructors, TAs, students and staff for whom it might be helpful. It will be located in and integrated as a

service of the Health Sciences Library (HSL) and be a centrally accessible and reservable studio-type space.

Project Title: Integrating 3D Virtual Anatomy at UNC School of Medicine
Principal Investigators: Kurt Gilliland PhD, Ed Kernick PhD, Richard Hobbs MD
Academic Unit: Office of Medical Education- UNC School of Medicine
This project will integrate mobile technology and 3D anatomy visualization into the School of Medicine human anatomy courses taken by over 400 students yearly. This project will utilize the computer-based software platform BodyViz that permits virtual visualization of complex anatomical relationships and correlative diseases processes blended together to create ultra-detailed 3D digital images of the human body. The use of BodyViz revolutionizes the current medical curriculum by transforming MRI and CT scans into interactive 3D visualizations that allows for the coupling of the pathology and pathophysiology of real medical conditions in 3D with the anatomical subject students are studying.

Project Title: Developing 3D models and Virtual Reality Experiences for use in teaching Himalayan Buddhism
Principal Investigators: Lauren Leve
Academic Unit: Department of Religious Studies
This project will use photogrammetry software, 3D modeling programs and video game engines to develop 3D models and virtual reality (VR) modules that will digitally transport students to religious sites in Nepal. This VR immersion allows students to explore sacred spaces (monasteries, pilgrimage sites) and ritual objects (prayer wheels, statuary) in the first person and empower them to encounter Buddhism in hands-on ways that appeal to diverse learners and inspire active learning.

Project Title: AR/VR Expansion for the Digital Health Program
Principal Investigators: Brian Moynihan & Nandita Mani
Academic Unit: University Libraries-Health Sciences Library
This project is centered on the expansion of Augmented Reality/Virtual Reality (AR/VR) offered within the Health Sciences Library as part of the Digital Health Program. Through this project greater access to these technologies will be facilitated for purposes of instruction, research and practice for students, faculty and staff in the health affairs. Year-round consults will be offered and proposals for use of the technologies will be solicited.

Project Title: Local Government in North Carolina: Open Educational Resources (OER) E-Book and Podcast
Principal Investigators: Rick Morse & Stefanie Panke
Academic Unit: School of Government
This project will create an e-book as an Open Educational Resource to update the 2012 edition of the book 'Local Government in North Carolina' by Gordon Whitaker. A new podcast will extend the book with interviews and stories about everyday activities in local government. Augmented reality layovers, implemented with Aurasma will add playful elements to the text, can be used to generate webquests, and connect to video or audio material. This new innovative resource is designed for use in K-12 civic education, School of Government classes, Citizen Academies and more.

Project Title: Using Digital Technologies to Identify Need for Dental Treatment
Principal Investigators: Rishma Shah DDS
Academic Unit: Department of Orthodontics- UNC Dental School

This project aims to provide a 3D interactive learning experience for dental students that will allow them to learn how to identify dental features associated with malocclusion using sample patient cases and learn about the history and application of the Index of Orthodontic Treatment Need (IOTN). Students will be able to visualize and manipulate the 3D facial and intra-oral images just as they would with a live patient and learn about malocclusion. Students will be able to take measurements on the 3D images and make notes on a personal virtual notepad, facilitating more engaged dental training.

Project Title: Making "Pick 5" Come Alive: An Innovative and Interactive Approach to Pediatric Resident Educational Conferences
Principal Investigators: Eric Zwemer, MD
Academic Unit: Department of Pediatrics- UNC School of Medicine
This project will use a computer program built around adult learning theory of problem-centered learning to create and maintain an interactive learning conference for medical students and pediatric residents. This computer program would allow a single user to run an interactive educational conference for the medical students and pediatric residents based on the conference style "Pick 5," currently being deployed by the UNC pediatrics department.

Project Title: Romance Studies/Chatham County Dual Language Program
Principal Investigators: Glynis Cowell
Academic Unit: Romance Studies
This small grant will provide headsets to facilitate group work for courses taught in DE 104 connecting on-site instruction for UNC-CH students with the dual language students off site in Chatham County schools. ROMS is piloting its first hybrid UNC/distance course, SPAN 338, and the primary challenge is difficulty in audio clarity during group work involving on-site students and students in the distance classroom. Because their approach to teaching is student-centered, group work is a critical component of classroom instruction.