ABSTRACT

Purposing emerging technologies for instructional innovation in higher education provides a multitude of challenges for students, instructors, and administrators. Educational leaders, researchers, practitioners, and other stakeholders in higher education often struggle with implementing processes to evaluate technology-based instructional innovation. This chapter details the development, facilitation, and evaluation of projects exploring emerging technologies in order to guide instructional innovation and provide solutions to common teaching and learning challenges. The purpose of these emerging technology exploration projects (ETEPs) is to guide college instructors interested in effectively using emerging technology in their teaching. To that end, this chapter also details opportunities and challenges, as well as potential solutions to these challenges, related to exploring and evaluating instructional innovation through these ETEPs.
INTRODUCTION

Though technology use and adoption has changed dramatically culturally over the past thirty years (Fischer-Baum, 2017), the physical classrooms in many contemporary American colleges and universities appear, in structure and function, quite similar to their medieval counterparts (Park & Choi, 2014). As new information and communication technologies (ICT) continue to saturate contemporary life, these technologies permeate the traditional, physical college classroom as well (Buabeng-Andoh, 2012). Perhaps categorizing a course modality (e.g., face-to-face, blended, fully online) may persist more for logistical purposes (e.g., student records) than a practical reality for many of those individuals currently teaching and learning in various modes. Recent statistics suggest that approximately 30% of college students take at least one form of distance education course, with only around half enrolling exclusively in online courses (Allen & Seaman, 2017). Though enlightening, these statistics may not fully capture other relevant formats such as a “technology-enhanced” or “Web Facilitated” (Allen & Seaman, 2014) course or a “flipped classroom,” which may be employed in a course classified, or categorized, as face-to-face. These courses may require students to do learning activities that might be thought of as traditional classroom work (e.g., watching an instructor lecture) online, and outside of class time (see Feng, 2017 for more on “flipped classrooms”).

As higher education works to adapt to changes and opportunities offered by online teaching and learning, cutting edge technological innovations like the “Internet of Things” (IoT), augmented and virtual reality platforms (AR/VR), and wearable technologies (Hether, Martin, & Cole, 2017) offer further transformative potential for the traditional, physical classroom experience. Attempts to integrate emerging technologies into higher education teaching and learning reach across many domains and stakeholders. For example, employers may expect college graduates to have the technical aptitude to use new technologies, and also demonstrate developed “meta-skills” that transcend the specific technology (e.g., communication skills, critical thinking skills) but are necessary to use the technology effectively (Duffy & Ney, 2015; Robels, 2012). Though a long-term need to integrate emerging technologies into higher education may exist, instructional innovation, and the related symbiosis with emerging technologies comes with a multitude of challenges for students, instructors, and administrators. This chapter details the development, implementation, and evaluation of emerging technology exploration projects (ETEPs) at a medium-sized, four-year comprehensive, liberal arts university in the Midwestern United States. The purpose of these ETEPs is to assist, and guide, instructors interested in using emerging technology to innovate their instruction, and effectively impact student engagement and learning.
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