

Chapter 1

Emerging Information Technology Issues in Higher Education

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ABSTRACT

This chapter explores three emerging IT issues in higher education and how an engineering college has attempted to resolve them. The issues explored include providing or recommending personal devices to students based on their degree program for the college's bring your own device (BYOD) program, exploring how to make supplied technology accessible to students and how to ensure equitable access for all students, and exploring the idea of collaborative learning spaces and VDI environments.

INTRODUCTION

The 21st Century has thus far been characterized by production and advancement of various technologies. Every sector of society is impacted by some form of technology, with people trying to learn how to make the most of what exist while at the same time trying to keep up with each new advance as it emerges. This rapid growth is present in the educational sector where it can be difficult to keep up not only with the changing technology but also with the changing needs of students.

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Students are some of the most active technology users in today's society (Wentorth & Middleton, 2014). The uses vary from personal use such as social media, to use for learning purposes. Educational institutions have been integrating technology into their classrooms, while at the same time scholars continue to question whether the presence of technologies has been having an impact on the learning process of students. The answer ultimately depends on what side of the debate one chooses, so researchers have found a positive correlation between technology use and self-direction and between self-direction and engagement (Rashid & Asghar, 2015), while others argue that the rapid deployment of technology has outpaced the pedagogy needed to make full use of it (Fullan, Quinn, & McEachen, (2017). This debate is taking place particularly in Higher Educational Institutions.

Higher education has long been viewed, globally, as a means by which to develop the human resources and skilled expertise needed to drive economic development (Clothey, 2011). It is in universities and other post-secondary institutions that students are expected to gain the needed skills for them to contribute to advancing the economic engine. To gain a competitive edge and to keep up with the ever-changing landscape, Davies and West (2013), note that it has become expected by students that teachers use technology to enhance their teaching process and thereby enhancing their education. In higher education, Information Technology (IT) departments, have been tasked with providing and supporting organizational units as well as the university as a whole. In an article about the state's perspective of the future of IT, Jonsen and Johnstone (1991) specified goals for technology in higher education. These goals included equity in use, efficiency, and quality of education (Jonsen & Johnstone, 1991). In 2019, these goals are still pertinent to using technology to enhance student success.

This chapter has two aims, the first is to explore three emerging IT issues in higher education and the second is how an engineering college in the United State has attempted to resolve them. The first issue the researchers explore centers around providing or recommending personal devices to students based on their degree program for the college's bring your own device (BYOD) program. The second issue the researchers explore is how to make supplied technology accessible to students and how to ensure equitable access for all students. The third issue the researchers will explore in this chapter is the idea of collaborative learning spaces and VDI environments.

The college the researchers chose to study is an engineering college that is a part of a larger state funded university in the United States. This college is referred to as College X throughout the chapter. College X has approximately 4,500 users and 14-degree programs. Each degree program has different software and hardware needs for their students. Each issue explored in the chapter is an issue College X has defined and attempted to resolve. To better understand the issues, the researchers

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