

Chapter 96

Mobile Devices in Higher Education Classrooms: Challenges and Opportunities

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ABSTRACT

More and more students are bringing personal mobile devices such as smart phones and iPads to university campuses. Widespread mobile device ownership among students offers Higher Education (HE) institutions with opportunities to explore those devices to support teaching and learning practices. The idea of using students' personal devices is referred to as "Bring Your Own Device," or BYOD. This chapter examines opportunities and key challenges often discussed in the literature and associated with a BYOD program. Outcomes suggest that a cultural change is necessary to effectively accommodate BYOD in the classroom. The chapter proposes a BYOD joint enterprise consisting of main stakeholders—administrators, faculty, students, and information technology personnel—working together to help minimize the impact of key challenges while maximizing the opportunities afforded by students' everyday mobile devices.

INTRODUCTION

In the 1980s, technologies in general became more personalized, moving from desktop computers to laptops and from landline telephones to mobile phones. Since then, mobile phones and other portable digital devices like digital cameras have developed rapidly (Crompton, 2013a). The devices have become lightweight, have increased in power and functionality, and are now small enough to fit in one's pocket (Crompton, 2013a; Kukulska-

Hulme, 2005). Smartphones, in particular, are becoming more powerful, encompassing not only the phone but also MP3, laptop, and PDA functionalities into a single device. According to Ally (2013), there is a tendency that smartphones and tablets will replace laptop computers. With such technological advancements, we are now experiencing the mobile age (Ally & Palalas, 2011), in which individuals use Internet-enabled mobile technologies anytime and anywhere to perform a variety of activities.

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Within higher education (HE), research suggests high mobile technology ownership among students (e.g. Dahlstrom & diFilipo, 2013; Kobus, Rietveld, & van Ommeren, 2013). Kobus et al.'s (2013) study pointed out that university students have a high probability of owning a mobile device in the future, including lower income students. Without surprise, more and more students are bringing their Internet-enabled personal mobile devices to university campuses. Some may even own more than one device. These devices are students' everyday tools which are being used more and more frequently to access the Internet, social media, and software applications (Lundin, Lymer, Holmquist, Brown, & Rost, 2010; Melton & Kendall, 2012) to support their learning (Fang, 2009).

Widespread ownership of mobile technology among students provides HE institutions with opportunities to adopt a BYOD programme. Contrary to traditional policies that rely on universities providing students with technology such as laptops or computer labs, students' personal mobile devices are used to support teaching and learning practices (Kobus et al., 2013); therefore, someone entering a classroom within a BYOD programme will notice students using their devices to participate in activities such as quizzes, Internet searches, or collaboration on an online project. Students may also be seen outside the class performing similar or other activities via their personal devices.

BYOD is not a new idea, as in the 1980s many HE institutions began allowing students to bring laptops to campuses and lecture halls (Crompton, 2013a). However, what is different today is the ways mobile devices can be used, allowing access to information and communication tools anytime and anywhere not previously envisioned (Cherwell Software, 2012).

The adoption of students' personal devices to support teaching and learning practices in the classroom presents HE institutions with both opportunities and challenges. Opportunities range from teaching and learning to reduced costs for

institutions. When referring to the challenges, Traxler (2010a, p.156) observed that "Student devices present a major challenge to many of the institutional practices and procedures associated with ICT and 'conventional' desktop e-learning. It is easy to say that education should embrace student devices but not easy to say how."

This chapter aims to discuss the opportunities as well as key challenges associated with bringing your own device (BYOD) to the classroom. This chapter also aims to inspire more awareness and reflections on the challenges, while proposing potential strategies to help minimize their impact on BYOD. These key challenges are often discussed in the literature and must be addressed by HE institutions to successfully accommodate students' devices in the classroom. In discussing the opportunities, this chapter expects to emphasize further how a BYOD programme may benefit both HE institutions and students.

OPPORTUNITIES ASSOCIATED WITH BYOD

Traxler (2005) suggested that the field of mobile learning should explore the widespread ownership of mobile devices to support teaching and learning. In particular, the author suggested adopting mobile phones since they can be highly cost-effective for institutions. In line with Traxler, a BYOD programme is perceived as cost-effective to HE institutions since it takes advantage of the available mobile technology students own. More specifically, the costs of hardware and software, as well as Information Technology (IT) support, are shifted to the users (Pillay et al., 2013). Additionally, when comparing costs of paper versus digital textbooks, there is indication that mobile devices such as tablets may maximize cost-efficiency by offering rich feature sets at low rates (UNESCO, 2013).

It should be noted that while institutions may save money with hardware and maintenance, the

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