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The Impact of Web 2.0 Technologies on the Learning Experience of Students in Higher Education: A Review

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ABSTRACT

This article describes how the use of Web 2.0 technologies in the field of learning is on the rise. By their nature, Web 2.0 technologies increase the interactivity between users where interactivity is considered to be a key to success in traditional classrooms. This article reviews recent studies in the field of Web 2.0 technologies for learning and their impacts on the learning experiences and investigates relationship between Web 2.0 technologies and pedagogy in higher education on student learning. Key findings about the impacts of using social networks like Facebook, Twitter, blogs and wikis on learning experiences are also discussed. Web 2.0 technologies' characteristics and the rationale of Web 2.0 technologies in learning will also be explored.

KEYWORDS

Interactivity, Learning Experience, Online Learning, Social Networks, Web 2.0 Technologies

INTRODUCTION

For approximately the last twenty years, due to the advancement in information and communication technologies (ICTs), the world has faced technological changes in many different fields, such as business, health, economic and education (Edwards & Bone, 2012). Web 2.0 technologies provide platforms for users to create, navigate, communicate, share and collaborate, which gives them new learning experiences and opportunities. Web 2.0 as the communication tools has provided users with venues to interact with different people 'anytime' and 'anywhere'. With the introduction of Web 2.0 technologies, there has been a paradigm shift from teacher and teaching to students and learning (Brown, 2012) which leads to 'student-centered' learning (Chawinga, 2017). The focus has also been shifted to 'users as producers and active participants' in learning activities rather than being 'consumer and passive participants' (Deebom & Amaso, 2017; Selwyn, 2011) and they are 'self-regulated' in which they can create their own learning environment (Palaigeorgiou & Grammatikopoulou, 2016).

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Collis and Moonen (2008) refer to Web 2.0 technologies as "what is perceived as a second generation of web-based services emphasizing on online collaboration and sharing". Web 2.0 technologies are sometimes referred to as social media in higher education (Chawinga, 2017; Gikas & Grant, 2013). Web 2.0 are the tools that are used for social networking, bookmarking and sharing videos and pictures. Web 2.0 is a set of tools such as Twitter, Facebook, wikis, blogs and polls that are used for engagement, interaction with peers, collaboration and participation (Chawinga, 2017). In the following section, Web 2.0 technologies in relation to learning are discussed.

METHODOLOGY

This study uses a systematic literature review method where the related works were gathered from different indexing services such as Web of Science, Scopus, EBSCOhost, Eric and Google scholar. The search keywords that were used are: Web 2.0 technologies, Web 2.0 tools, the impact of Web 2.0, Web 2.0 technologies in education, Web 2.0 technologies in higher education, Web 2.0 technologies and students, Web 2.0 technologies and learners, Web 2.0 technologies enhancing the learning, Web 2.0 technologies and students-centered, the interactivity of Web 2.0 technologies in learning, the interactivity of Web 2.0 technologies in higher education, the benefit of Web 2.0 technologies in learning process, and Web 2.0 technologies and learning experience.

OVERVIEW OF WEB 2.0 TECHNOLOGIES AND STUDENTS' LEARNING EXPERIENCES

The fundamental categories of Web 2.0 technologies can be represented as: (1) student-centered design, where students are the producers of knowledge; (2) learner-instructor as colleagues, and (3) a shift from formal learning environment to informal learning environments (Huertas et al., 2007). There are five classifications of interactions in the formal and informal learning environments: 'learner-learner', learner-instructor', 'learner-interface', 'learner-content' and 'learner-self' interaction (Palaigeorgiou & Grammatikopoulou, 2016; Sun & Hsu, 2012).

Even though the use of Web 2.0 technologies among students was evidenced, Barnes and Tynan (2007) observed a disconnection between student take-up and their academic take-up of Web 2.0 technologies. Whilst there are many factors that shape the uses of Web 2.0 technology for learning, learning experience in particular has always been identified as the impetus behind the successful integration of technology and learning.

Web 2.0 tools such as Twitter enhance the interactions between learner-instructor (Deebom & Amaso, 2017; Palaigeorgiou & Grammatikopoulou, 2016; Johnson, 2011) and learner-learner interactions (Deebom & Amaso, 2017; Ebner et al., 2010). Mazer et al., (2007) explored the fact that Web 2.0 can be used as a venue for interactions between students and instructors; the students can upload homework, find the announcements and connect with their instructors outside classrooms using this venue (Chawinga, 2017; Palaigeorgiou & Grammatikopoulou, 2016). In addition, Galagan (2010) concludes that the use of Web 2.0 technologies are on the rise; he reported that 60 percent of the studied participants have an account in Web 2.0 technologies and 91 percent access their social media accounts using mobile phones.

Educators in higher education that are looking for innovative methods to interact with students and to encourage them to be more active found Web 2.0 technologies are attractive and promoting more active learning (Palaigeorgiou & Grammatikopoulou, 2016; Hughes, 2009). Active learning, as defined by Bonwell and Eison (1991), is anything that "involve[s] students in doing things and thinking about what they are doing". Zhao and Kemp (2012) defined it as "people learn from doing (experience) and interacting with each other". The active participation described by O'Reilly (2004) as the 'Architecture of Participation'. The focus of active learning is to provide the opportunity for both shy students and non-shy students to participate, collaborate, and share in the learning process