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An Academic Review of Virtual Learning Environments

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ABSTRACT: E-learning systems often called VLEs are designed for supporting and improving the individual study process. The VLEs have been part of the Universities' architecture of the past 15 years and play a role in 95% of U.K. Universities, and thus, have become an integral part of the teaching and learning process. VLEs also present an opportunity for universities to leverage their brand across geographical borders (Martins and Kellermanns 2004). A VLE is a web-based learning platform, that allows students, without the barriers of time and place, to access a wide range of different learning tool and course content (van Raajj et al 2008). Although, depending on the software manufacturer, there may be variety in the communication functionality, such as webchat, video chat, forums, and group discussions. In this academic review, I critique VLEs and the role they play in education.

Keywords: VLE, online learning, e-learning, remote learning

INTRODUCTION

There are various naming conventions associated with VLEs, yet there remains an important distinction between VLE's and Learning Management Systems (LMS). Despite some educators often using the terms interchangeably, LMS are used much more broadly outside of education, such as training in business services and manufacturing (Barnes 2014). The eLearning Guild (2014) published figures which suggested the term LMS is only used 21.7% of the time in higher education, with the remaining percentage consisting of training, financial, business services, government, and telecoms. In contrast, Moodle is a VLE and is primarily focused on acts of learning which have been facilitated. Both VLEs and LMS have many of same features, such as forums, quizzes, and reporting, however, the distinction rests in how they are being used and their development trajectory.

Discussion

Much of the literature focuses on the administrative uses of VLEs, rather than pedagogical uses by the teacher (as in van Raajj et al 2008). Despite this, there have been successful implementations of VLEs throughout the West, and student acceptance is often the cause (Martins and Kellermanns 2004). Researchers such as Martins and Kellermanns (2004), van Raajj et al. (2008), and Williams (2020) have argued that student acceptance of a system is indeed a significant predictor into the success of that

system. It can be argued that students prefer VLEs that contain readily available support, that are perceived as useful (downloading study materials), and adopt a social context. Further research suggests that personality traits play an important role in the technology adoption process, in particular with consideration to computer anxiety (Karahanna et al. 2002). Functions to access learning materials are viewed as 'useful' and 'essential' by students (van Raajj et al. 2008), however some literature suggests that the provision of learning materials can lead to an increasingly passive teacher (Jisc 2009; Wilford 2018). Although a passive teacher approach may be viewed negatively, students are increasingly likely to believe the VLE will help them in their studies when they perceive it useful. The virtual world certainly presents opportunities for complex multidimensional tasks as opposed to an increasingly unidimensional teacher-led approach. Furthermore, a popular feature associated with VLEs is the fulfilment of students' communications needs, such as instant communication with peers and teachers in a variety of formats (van Raajj et al 2008).

Some researchers have long argued that learners have different needs and characteristics, such as prior knowledge, cognitive traits and 'learning styles' and although this concept is debated, the awareness of differentiation of learning appears to be beneficial for students (Ingleby 2016). Thus, it is important that educational institutions personalise their learning processes according to the main characteristics of their students. Built on constructivism, personalised learning has become popular in educational literature in recent years (Dorca et al. 2012; Zhang et al. 2012). According to the theorists, Becta (2008) and Kurilovas et al. (2016), VLEs have four main areas that can contribute to a personalised learning experience: communication tools (emails, messaging, and discussion boards), individual working space (learning resources accessible outside of lesson time), management tools (tracking individual progress), and security (access from any internet device). Several studies across Europe have gone further and allow the personalised creation of eLessons to match students' 'learning styles', such as auditory, visual, and tactile/kinaesthetic. These personalised pedagogical agents are welcomed by educational practitioners.

Moodle and Blackboard are some of the most well-known VLEs, and they are characterized by their constructivist approaches, whereby their primary use is to collaborate, extend discussions and keep students informed. These characteristics are echoed in principles of constructivism and behaviourism.

One of the main challenges in VLEs is assessment, as it differs from measuring attainment in the classroom. In VLEs, tools such as quizzes, and tests are used to measure educational outcomes, however formative evaluations that contain data about the quality of interactions and communication among peers, and levels of participation are more complex to measure (Pesare 2015). Teachers would usually assess through traditional 'face to face' encounters, although this does rely on the quality of the evaluator, and a NQT may measure the quality of group work differently to an experienced practitioner. However, VLEs rarely present an overall picture for the evaluator and often use quantitative evaluations; Baker et al. (2005) argues quantitative evaluations are unreliable and not always significant. This conundrum offers scope for new opportunities and challenges that should be investigated within VLEs.

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