


Chapter 9

An Interactive System Evaluation of Blackboard System Applications: A Case Study of Higher Education

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ABSTRACT

Online learning today demonstrates comparability with face-to-face learning. New digital technologies provide an improved and immersive learning experience for students and related educational ecosystem. A virtual learning environment (VLE), for example, is an online-based platform that provides digital solutions for teachers and students that enhance the learning experience. This chapter observes the main elements of virtual learning environments, together with an evaluation of the VLE blackboard system design, and discusses how blackboard facilitates teaching, learning, and communication in HEIs. Findings suggest that the weaknesses of blackboard could be compensated by the opportunities, whilst threats should be considered by the policymakers to enrich the teaching and learning experience. Recommendations and future potential research are also provided.

INTRODUCTION

Nowadays, online learning demonstrates comparability with face-to-face learning (Bernard et al., 2004; Means et al., 2009). New digital technologies allow for a better learning experience for students and the related educational ecosystem. The introduction of Massive Opened Online Courses (MOOCs) have changed the earlier perception that the university studies are always held in a formal classroom

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environment with a physical presence of a lecturer (Young, 2012). The integration of technology into the learning process could be initiated with general purpose cloud applications, such as Google Docs or Drive, Calendar, and Sites, which can be used effectively for collaboration between academic staff and their students (Owayid and Uden, 2014). Altogether, this transform learning process to either *blended learning environment* (Osguthorpe and Graham, 2003; Graham, 2006; see also Glahn, Gruber and Tartakovski, 2015) or *virtual learning environment* (Dillenbourg et al., 2002). This allows students to enhance their learning experience by accessing online content from their own mobile devices anytime and fosters collaborative work among students and professors. The *virtual learning environment* differ from *blended learning environment* by extending online components in overall student learning. If for *virtual learning environment*, students interact and learn online, *blended learning environment* calls for a mixture of online and face-to-face learning for a student.

Both environments enable Blackboard systems to support learning process, which enables virtual representation of the course content. Initially planned to enhance face-to-face teaching with course details, syllables, web links, study instructions that are available online, Blackboard system has enabled academic staff, technical staff and students to engage in new form of online interaction, to form groups with different access rights and to contribute to the learning process in almost all modern universities. One of the main barriers impeding utilisation of virtual learning environment is the lack of digital skills, poor design of modern blackboards and incorrect utilisation of a blackboard. In contrast to generation Z of modern students, which cannot imagine the world without IT, the earlier generations of tutors, lecturers and professors may find themselves in a disadvantaged position towards new educational technologies, especially in humanities and mainly due to their previous educational background. As a result of this, many professors find challenging to interact with students online, especially in terms of speed of reaction, timings, format of answers and prefer the conventional ways of interaction. At the same time, many students find the blackboard systems confusing. Their conservative human-machine interface design, which was implemented mainly following the conventional requirements of tutors (Web 1.0), often is less suitable than the one applied in popular apps, marketplaces and social networks that are used by students (Web 2.0). Additional case is the situation in the 3rd world countries, where the access to computer and computer literacy skills is constrained. This implies reflection on how students and lecturers perceive the arrangements of educational activities: (1) engaging in discussion, (2) submitting assignments, and (3) delivering course content. Altogether, this calls for evaluation of potential mass application of interactive virtual learning environments, such as blackboard systems, in higher education institutions (HEIs).

In this chapter we observe the main elements of virtual learning environments, evaluate design of a blackboard system as an example of such, discuss how blackboard facilitates teaching, learning and communication in HEIs and derive recommendations how to avoid or overcome the known barriers impeding utilisation of these digital technologies. The chapter finishes with recommendations and future potential research.

VIRTUAL LEARNING ENVIRONMENTS (VLE)

A virtual learning environment (VLE) refers to an online-based platform that “offers students and professors digital solutions that enhance the learning experience”. Such settings could be defined by the seven elements (Dillenbourg et al., 2002).

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