Factors Affecting University Students' Use of Moodle:
An Empirical Study Based on TAM

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ABSTRACT

Higher education institutions are faced with the complex challenges of serving increased enrollment levels within tight budgets. This challenge is prompting many universities to explore new approaches including the use of Learning Management Systems (LMS) such as Moodle for delivering courses to help extend teaching and learning beyond the classroom. Using Technology Acceptance Model (TAM) as an underlying theory, this study investigated students' perceived usefulness as well as the perceived ease of use of Moodle in the University of Education, Winneba in Ghana. The study also used multiple linear regression to determine if these factors have any impact on the rate at which students use Moodle. Data was collected from a random sample of 229 students from the Faculty of Science Education using a questionnaire. The analysis revealed that students' perceived usefulness of Moodle and perceived challenges in using Moodle combined contributes significantly to students' rate of Moodle use.

KEYWORDS

E-Learning, Higher Education Learning, Learning Management System, Moodle Use, Technology Acceptance Model

INTRODUCTION

Many higher education institutions are today faced with the complex challenges of serving increased enrollment levels within tight budgets. Adding to this complexity are new student expectations for the when, where and how of learning — where passive listening and doing classwork in isolation are no longer acceptable (Centre for Digital Education, 2012). These challenges are prompting many colleges and universities to explore new approaches, especially blended learning, for delivering courses. Alternative means of delivering courses have become possible and popular largely because of the increasing advances in technology. These advances particularly in computing and Internet technologies make it possible to experiment and use new modes of instruction.

Today many higher education institutions have a plethora of Learning Management Systems (LMS) to help extend teaching and learning beyond the classroom. The top three LMSs are Edmodo, Moodle (Modular Object Oriented Dynamic Learning Environment) and Blackboard. These platforms have seen their vendors increase steadily from 171,913 in 2012 to 227,084 in 2014 and 383,488 in 2015. The number of users also increased by over 58 million between 2012 and 2015. ("Top LMS Software", 2016). Among the many LMS and platforms available, Moodle seems to be a popular choice (Moodle, 2013). Moodle is a free e-learning software platform, originally developed to

enable educators to create online courses to encourage interaction and collaborative construction of learning content. It provides several opportunities for the 'teacher' to transform from being 'the source of knowledge' to being a facilitator and role model in the process of acquiring knowledge and skills (Bennett & Lockyer, 2004) Examples of tools provided on Moodle include: online chat, student progress tracking, group project organization, student self-evaluation, grade maintenance and distribution, access control, navigation tools, auto-marked quizzes, electronic mail, automatic index generation, course calendar, student homepages, and course content searches (Mann, 2009).These tools makes it possible to easily and efficiently distribute course information and materials to students via the Internet which allows greater online communication and interaction (Sanchez-Santamaria, Ramos, F.& Sanchez-Antolin, 2012).

Moodle enables instructors to control access to a variety of course materials (i.e. syllabi, lecture notes, course outlines, images, etc.) and allows students access to such material from virtually any location. For the instructor, a multitude of options exist for developing, implementing, revising, and delivering course content. At the department level, these tools can have a profound effect on faculty teaching and student learning, departmental communication, and faculty workload. Moreover, Moodle also serve as document repositories giving both the lecturer and the student the ability to develop just-in-time strategies for learning. Students no longer need to worry about losing important reference materials and lecturers know that students can gain access to relevant classroom materials at any given time (Stith, 2000).

STATEMENT OF THE PROBLEM

Learning Management Systems have grown considerably in universities around the world. The University of Education, Winneba (UEW) has pioneered in this area in Ghana, adopting Moodle as its official LMS (http://www.moodle.uew.edu.gh). Students are expected to use Moodle to enroll in courses, download learning materials, communicate with other participants using forums, write blogs, contribute in content creation using wikis, communicate with lecturers through a built-in messaging system, finish their activities, upload files, undertake self-evaluation and check grades. The lecturers have been trained to use Moodle to manage learning content materials, manage students and their grades, check the uploaded students' work, prepare quizzes and create content using wikis. However, it has been argued that successful implementations of LMSs depend, not only on providing training and support for instructors, but attention must also be given to the level of students' active engagement, satisfaction and use of the LMSs (Hall, 2006). The users' perspective is therefore crucial to examine in the implementation of LMSs and to evaluate their success.

Many factors affect how students use LMSs. Experiential and research evidence shows that the current generation of students in higher education usually disengaged from the learning process especially if it follows only the traditional teacher centered, classroom learning characterized by instructors dictating content (Haythornthwaite, 2008; Deslauriers & Weiman, 2011; Stowe, von Freymann & Schwartz, 2011). This is compounded by the fact that today many undergraduate students do not fully appreciate the value of succeeding in their education (Kuh, Kinzie, Schuh, & Whitt, 2005; Felder & Brent, 2007; Kuh, 2008). This lack of motivation leaves teachers in undergraduate programs distraught with the task of keeping students interested in their lectures and other learning activities. Consequently, the goal of improving the quality of higher education through the use of LMS cannot be achieved if student lack motivation and interest in their use. It is therefore important to investigate the factors that can influence students' use of LMSs. Research studies have indicated that students' perceptions, challenges and the values they attach to technology innovation such as Moodle influence their actual use of the technology (Davis, 1989; Ajzen, 1991; Tallman& Fitzgerald, 2005). Nevertheless, they do not indicate the extent to which these factors influence the rate of use.

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