

# Assessing Perceptions of Academic Staff in Using SmartUMS for Teaching and Learning

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## ABSTRACT

The use of educational technologies for teaching and learning has been implemented in many institutions of higher learning. Universiti Malaysia Sabah (UMS) uses Moodle on SmartUMS e-learning platform to deliver academic courses. Every lecturer needs to register their respective courses on SmartUMS to complement face-to-face teaching and learning routine. The purpose of the study was to investigate academic staff's acceptance and perceptions towards SmartUMS usage in UMS. The findings will contribute to the development of the UMS's e-learning strategy, providing information on active participations from the lecturers which will enable the most effective use of education technology. Data was collected from all participants of SmartUMS training sessions. A questionnaire was distributed to 86 respondents and statistically analyzed using SPSS statistical package. The findings revealed that lecturers developed positive acceptance and perception towards using SmartUMS. It also concludes that SmartUMS provide value tools for effective interaction between lecturers and students in their teaching and learning activities.

**Keywords:** e-learning, SmartUMS, lecturer, perceptions

## INTRODUCTION

The widespread use of the internet and the advancement of technology provide benefits to the educational sectors. E-learning application such as Learning Management System (LMS) is able to manage the teaching and learning process more effectively. Users can access the system from anywhere at any time. Students can now access their lecture materials, read and prepare themselves before the start of the class without the limitation of time. They can use the facilities available in the LMS to communicate with their lecturer and peer either through synchronous or asynchronous communication. Besides that, they can also participate in an online discussion forum or using Wiki to collaborate. Learning via the LMS encourages a two-way communication between students and their lecturers. Meanwhile, the lecturer could upload lecture materials and make use of the

tools available for assessment i.e. quiz, test, etc. online. The online learning has resulted in a new teaching strategy, transform the way teaching and learning is done whether or not teachers or students would like to adopt the change. Technology is reshaping the educational sectors by offering students a new approach to learning and offering educators new way of teaching (McKenzie, 1998). By introducing the LMS for teaching and learning, it does not mean that the learning process is to take place totally via the internet but rather to complement the traditional teaching.

## OBJECTIVE OF THE STUDY

The objectives of this study are as follow:

1. To determine the extent of acceptance of SmartUMS among academic staff
2. To identify the usage of SmartUMS in communicating and interacting the lecturers with their students
3. To assess the perceptions of lectures in using the SmartUMS as a teaching tool

## LITERATURE REVIEW

### *E-learning Adoption*

E-learning system is one of many methods of the education (the teaching and learning procedure) that allows flexible learner-centred education. It is an information system based on the World Wide Web. During the past few years, the use of e-learning has expanded enormously (Westera *et al.*, 2005; Mangalwede & Rao, 2009). E-learning can be defined as an electronic learning, which is basically meant as collections of teaching and information packages in further education. They are also available at any time and any place, and are delivered to learners electronically (Dichantz, 2001). According to Jowati (2004), many institutions of higher learning education in Malaysia use e-learning system in a mixed-mode environment known as blended e-learning whereby a combination of e-learning and face to face learning are used together.

Higher learning institutions play an important role in ensuring the successful use of e-learning. As part of an institutional strategy for the effective deployment and management of a LMS, the issue of educating staff in the use of technology is one amongst a host of issues (Ellsworth, 1997; Harrsch, 2000; Meehan *et al.*, 2002; Minshul, 2004; Roberts *et al.*, 2002). However, appropriate training remains vitally important to the successful adoption of technology (Meehan *et al.*, 2002).

Educators need to be aware of the labour intensive nature of online learning and the resources available to assist with the development of effective online instruction. The university's reward and promotional system should acknowledge lecturers' activities by developing successful online learning and mentoring other staff members in their

online delivery of units (Siragusa & Dixon, 2007). In Universiti Pendidikan Sultan Idris Malaysia (UPSI), Muhammad Rais Abdul Karim and Yusup Hashim (2004) stated that UPSI implemented progressive introduction of technology to receive the lecturer's acceptance and attention. The lecturers found it relevant in their teaching approach and built up their confidence in using it. More importantly, they realise the advantages of using the technology in their instruction. In another study, Agboola (2004) revealed that e-learning training and e-learning confidence were statistically significant predictors of both e-learning adoption and e-learning readiness. E-learning training remained as the best predictor. This study investigated the preparedness of the academic lecturers for the introduction of e-learning at the International Islamic University Malaysia.

According to Siragusa and Dixon (2007), lecturers' knowledge and abilities of online learning technologies may influence how they utilise the website to enhance their students' learning. A lecturer with a low understanding of online learning technologies may simply use the website as a repository of content for students to access, print out and read elsewhere without active online engagement with the learning materials. However, a lecturer with sound knowledge of online learning technologies may use these technologies for creating effective learning strategies such as interactive online learning activities including online quizzes, forum, synchronous communication through chatting and others.

### ***The Importance of Lecturer's Perception***

Lecturers play an essential role on how to ensure the successful e-learning implementation as an alternative teaching tool to replace the traditional face to face method in higher education. The study on perceptions of academic staff in using e-learning has been discussed by many researchers. An investigation by Siragusa *et al.* (2007) pointed out that how lecturers perceive the importance of online learning will influence how online learning is utilised and integrated into their teaching practices. The findings also reported that lecturers with a low perception of the importance of online learning may not fully consider how to apply online strategies to enhance their students' learning.

In another study conducted by Agboola (2004) on users' perceptions of e-learning implementation in IIUM showed that there was a strong indication from the analyses that the respondents, who were academic staff, would implement e-learning for instructional delivery in their teaching activities providing they were equipped with necessary skills through professional training and other support. As far as the e-learning scenario in Malaysia is concerned, a survey conducted by the Multimedia University (MMU, 2003) revealed that e-learning will become an important field with more than 50% of top academic management, staff/academics and students/clients accepting the concept. The survey reported that 65% of institutions provide some form of training or instruction utilizing aspects of the online or e-learning format. To support this study Zhang (2007) reported that the availability of strong institutional support is crucial for e-learning deployment and success.

In Vrana *et al.* (2005) study, 76 faculty members in Technological Education Institute of Serres were selected with regard to their perceptions of their attitudes towards educational technology including e-learning. The results revealed that faculty members have a good opinion of e-learning. They were well-informed, well-prepared and well-disposed towards the use of ICT and e-learning. According to Vrana *et al.* (2005), motivated members are the principal driving force for any organizational change.

### ***SmartUMS***

E-learning initiative in UMS began around 2002 using Blackboard as the main e-learning platform. The e-learning implementation was meant to complement the traditional chalk and talk teaching method. Based on blended learning method, UMS integrates the versatility and flexibility of self-managed learning with most of the learning material uploaded to the e-learning portal and actual face-to-face interaction. It was July 2006 when the management decided to move to an open source technology, Moodle, as the e-learning platform. Initially the e-learning portal was known as the UMS Learning Management System. However in August 2009, it was rebranded as SmartUMS with “One Stop Borderless Experience” as the tagline to promote and motivate the users to use e-learning.

Currently, the SmartUMS is running under Moodle 1.9. Moodle has enhanced the learning process by making it more flexible and giving more opportunity for lecturers to deliver the content in variety format (doc, flash, jpeg) which also follow the SCORM standard. It is user-friendly yet customizable. Moodle provides rich collaborative facilities for the learning activity such as forums, wikis and chat. It also offers various ways to deliver content to students and assess learning using assignments and quizzes. Moodle introduces the philosophy that through the interesting collaborative learning, students will be more motivated to engage themselves in the learning process (Moodle, 2010).

Throughout the implementation of SmartUMS, a series of training has been conducted to encourage the lecturers to develop their online materials and explore the collaborative modules offered by Moodle. In order to achieve the target of 30% of the courses offered in UMS to be accessible online, continuous promotion and training of SmartUMS usage among the lecturers and students are needed.

## **METHODOLOGY**

### ***Participants***

The study was conducted on 86 lecturers after the “Training the Trainers” workshop in 2009. The participants were UMS lecturers selected randomly.

## ***Research Design***

This research was a non-experimental, small scale quantitative study. It involved mainly the use of questionnaire on the lecturers' perceptions of SmartUMS usage as an e-learning tool in Universiti Malaysia Sabah.

## ***Data Collection***

The study used probability sampling method. The questionnaires were distributed after the training and altogether, 86 self-administrated questionnaires were collected. The researchers deliver by hand the questionnaire randomly to the lecturers after explaining to them the purpose of the study.

The analysis was done using SPSS (Version 9) statistical package in order to identify the means, percentage and standard deviation of the items. A five-point Likert scale was used in this instrument (1 = Strongly Disagree (SD), 2 = Disagree (D), 3 = Neutral (N), 4 = Agree (A), 5 = Strongly Agree (SA)). The questionnaire used for this study comprised of three sections:

- Section A: 3 items designed to find the acceptance of the lecturers towards SmartUMS (LMS Moodle).
- Section B: 4 items designed to find the usage of SmartUMS.
- Section C: 3 items designed to find to what extend the lecturer's perception of using SmartUMS.

## **RESULTS**

### ***Findings***

The quantitative data has been collected and analyzed descriptively on lecturers' perceptions towards LMS Moodle. The total percentage, mean and standard deviation have been computed for each item in the questionnaire. Tables 1 to 3 show the results of the descriptive analysis of the data.

Table 1 shows that most of the lecturers understand the purpose of SmartUMS as a learning management system platform in UMS (mean = 3.69, Standard Deviation = 0.985) and that they were able to learn on how to use LMS without any serious problems (mean = 3.72, Standard Deviation = 0.941). The lecturers also showed positive acceptance on LMS as an alternative strategy in teaching, with mean of 3.85 and Standard Deviation = 0.847.

Table 2 indicates that the lecturers used SmartUMS to upload course materials mostly, which is reflected in the mean = 4.06 and Standard Deviation = 0.938 in comparison to other activities such as the use of forum, wiki, quiz and blog for information sharing and collaboration among students.

**Table 1** Acceptance towards LMS Moodle

	<b>SD</b> <b>%</b>	<b>D</b> <b>%</b>	<b>N</b> <b>%</b>	<b>A</b> <b>%</b>	<b>SA</b> <b>%</b>	<b>Mean</b>	<b>Standard deviation</b>
I know what LMS Moodle is.	3.5	7.0	26.7	43.0	19.8	3.69	0.985
I have no serious problems when learning LMS Moodle.	1.2	9.3	26.7	41.9	20.9	3.72	0.941
I like to use LMS Moodle as a teaching tool.	1.2	2.3	30.2	43.0	23.3	3.85	0.847

**Table 2** The usage of LMS Moodle tools

<b>Items</b>	<b>SD</b> <b>%</b>	<b>D</b> <b>%</b>	<b>N</b> <b>%</b>	<b>A</b> <b>%</b>	<b>SA</b> <b>%</b>	<b>Mean</b>	<b>Standard deviation</b>
LMS Moodle helps me greatly in my course via the use of forum, quiz, wiki, blog, etc.	0	8.1	38.4	34.9	18.6	3.64	0.880
A lot of activities (forum, wiki, etc.) which involves collaborations and information sharing among students can be created in LMS Moodle.	1.2	4.7	19.8	46.5	27.9	3.95	0.880
LMS Moodle enables more students to interact with me on my teaching.	2.3	4.7	30.2	37.2	25.6	3.79	0.959
I have the ability to upload course synopsis and notes to the LMS Moodle.	3.5	2.3	12.8	47.7	33.7	4.06	0.938

**Table 3** Perception of using LMS Moodle

	<b>SD</b> <b>%</b>	<b>D</b> <b>%</b>	<b>N</b> <b>%</b>	<b>A</b> <b>%</b>	<b>SA</b> <b>%</b>	<b>Mean</b>	<b>Standard deviation</b>
I like to use LMS Moodle as a teaching tool.	1.2	2.3	30.2	43.0	23.3	3.85	0.847
I feel comfortable using e-learning (LMS Moodle) in my course.	0	8.1	27.9	44.2	19.8	3.76	0.867
LMS Moodle and other LMS are used by a large number of universities in other countries.	2.3	4.7	29.1	41.9	22.1	3.77	0.929

Table 3 reveals that the lecturers showed positive perceptions of the LMS and its usage (mean = 3.85) and they seemed to be aware of the LMS adoption by other universities as an alternative teaching strategy (mean = 3.77, Standard deviation = 0.929).

## ***Discussions***

First, we wanted to know the acceptance of lecturers towards Moodle LMS in particular. The questions asked were whether they know what Moodle is, whether they have serious problems when learning using LMS Moodle and whether they like to use the LMS as a teaching tool. Result of the acceptance of the lecturers towards using the LMS is shown in Table 1. Generally, it shows that the lecturers have positive acceptance towards using the LMS. This is in contrast with Latchem (2004) that staff can experience many problems when institutions move into open and flexible learning and import new ideas and practices that are neither fully understood by staffs' traditional values and practices. However, this finding is supported by Vrana *et al.* (2005) that e-learning offers individual empowerment with greater control over learning. Lecturers who are comfortable with technology and have a positive attitude towards it are more likely to succeed within an e-learning environment.

From the result shown in Table 2, whether the LMS helps them greatly in their course via the use of forum, quiz, wiki, blog, etc., whether the activities (forum, wiki, etc.) can be created to collaborate and share information among students, whether the LMS enables more student to interact with them in their teaching and whether they have the ability to upload course synopsis to the LMS, most respondents think that the LMS has helped them in communicating and interacting with their students. It shows that the lecturer do not have negative attitude towards using the tools available in the LMS. It appears that the lecturers have used the tools in their teaching and have found it beneficial. Ong and Lai (2006), and Tung and Chang (2008) found that the perceived usefulness and the perceived ease of use of e-learning system have a significant effect on the behavioral intention to use that system. According to Jebeile (2003), strategies for facilitating the adoption and effective utilization of e-learning are an issue of importance to educational administrators around the world. E-learning requires active participations from the lecturers to attract students' attentions towards e-learning. As mentioned by Bates (1999), e-learning can provide a cost-effective measure for preparing students more adequately.

The finding also represents that the lecturers have positive perception of the usage of the LMS in their teaching strategy. They are aware of the available tools or facilities that could be applied in their teaching such as the forum, discussion, wiki, blog, etc. The most important question is how to ensure participation from lecturers in using the e-learning system (in this case MOODLE) that the university already has. Based on the authors' experience, the most important things in the implementation and adoption of e-learning are (i) lecturers must be interested to use the system, (ii) support given



to them in using the system, and (iii) benefits of the system in a longer term (unique and innovative). This is supported by Tung and Chang (2008) in their investigation on behavioural intentions to use the online-learning course websites, which concludes that the perceived usefulness from educators point of view (i.e. greater control over work, improve job performance, save time, accomplish tasks more quickly, enhance effectiveness) may influence their behavioural intention to adopt e-learning system.

In addition, it is reported in Mason (2001) that, technical infrastructure must be in place to support technical aspects necessary for the production of course materials, delivery of the courses, as well as lecturer and student support. This is also supported by Jamlan, (2002) that in order to successfully implement e-learning, a supportive technological infrastructure must be in place and the availability of expert to design curriculum, offer student support etc.

## CONCLUSION

E-learning is the delivery of teaching and learning opportunities via web-based technologies to help lecturers and students' performance and development. In this paper, we have reported findings from the questionnaires involving the usage of e-learning among the lecturers in Universiti Malaysia Sabah. From the quantitative data collected, we found that most respondents have a positive perception of using SmartUMS as a platform of e-learning in university. The findings from this study can be used by the university to continue its efforts in enhancing the use of e-learning among lecturers. It is a big challenge to realise, attract, motivate, and create trust and confidence of the lecturers involved in e-learning. However, in order to achieve the university's target that all courses offered in UMS apply SmartUMS, we need continuous promotion and training of the usage of e-learning among the lecturers and students. Besides that, lecturers and students must have technical and cognitive skills in ICT so that they can become effective users of the technology.

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