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A CASE STUDY ON IMPLEMENTING E-LEARNING THROUGH THE USE OF INTI ONLINE

ABSTRACT

Web based learning has been implemented widely in colleges and universities nowadays. The aim of this paper is to present INTI College's current e-learning system, INTI Online and shows how it has enhanced the quality of learning experience of students from our college.

INTI Online was developed in April, 2002 with the aim of supporting the lecturers and students in their teachings and learning. INTI Online provides three main features of E-learning. The three areas which INTI Online focused are on the assessments, interactive sessions and lecture notes. Other supporting features of INTI Online include e-mails for classes, notice boards, course information, FAQ, and a drop bin for students to submit their assignments. This paper will give an overview of the technologies that support the features. Surveys collected by the school based on students' evaluation of INTI Online will also be discussed. The aim of the surveys is to provide the views of students on INTI Online's features in particular the online lecture notes as well as the supporting features mentioned. The paper will also discuss the future of INTI Online in particular how it will be used to support distance learning courses that will be conducted by INTI College in the future.

INTRODUCTION

E-Learning has been widely used in Malaysia. The idea of E-learning is not something new in Malaysia. It has gained acceptance as a tool for training in the business and education environment. The advantage of E-learning is of course its flexibility to allow learners to learn anywhere and anytime. E-learning as a result, removes the time and distance barriers. In Malaysia, increasingly more institutions are using E-learning to support in their teachings. Several universities such as UNITAR and Open University Malaysia, are among the few universities that depend heavily in their E-learning technologies.

In line with INTI College’s e-campus concept, INTI College used an e-learning system called INTI Online to serve the lecturers and students. This system provides them with features that allow them for doing assessments, discussions, downloading and uploading
of learning materials, study schedules and other e-learning supports that will be discussed in this paper.

This paper will discuss some of the e-learning features offered by INTI Online, and the evaluation on these features by INTI College’s final year students.

LITERATURE REVIEW

E-Learning Categories

E-learning can be divided into four categories. They are Knowledge databases, Online Support, Asynchronous training and Synchronous training [2], [4].

A knowledge database is the basic form of e-learning. It acts as a database whereby users can type in keywords or phrases to search the database, or make selection from the alphabetical list.

Online support is similar to knowledge databases except it provides more tools. Online support comes in the form of forums, chat rooms, online bulletin board, e-mail or live instant messaging support. By providing these functions, online support is much more interactive than knowledge databases. Examples of such websites include WebCT used by various universities in the UK.

Asynchronous training involved self-paced learning through the use of CD ROMS, Internet or intranet. Users will be interacting with their instructors through online bulletin boards, online discussion groups and e-mail.
Synchronous training involves real-time training with the instructor. Users will log in and communicate with their instructors and each other. Students will use technologies such as white boards, audio and video conferences or Internet telephony.

**E-Learning in Malaysia**

According to a recent survey by Internetworldstats.com, Malaysia is currently ranked among the top 20 highest number of Internet users in the World. This shows that E-Learning through the use of Internet will become increasingly more common in Malaysia in the future. In terms of Malaysia’s E-Readiness in Southeast Asia, Malaysia just falls behind Singapore and is currently at the embedding stage where 1) there a general acceptance of ICT by citizens, business and government 2) Incorporation of e-business requirements into policies, legislations and regulations 3) Efforts taken to enhance international standing.

Currently, more universities are needed to cater the growing student population in Malaysia. Malaysia’s goal is to have 40% of the school leavers to enter higher education by 2020. However, it is a very high investment to build and maintain universities. As a result, one solution to this is through the creation of virtual universities or implementing e-learning in universities and colleges. Currently, there are two virtual universities that are established in Malaysia. They are UNITAR (University Tun Abdul Razak) and Open University of Malaysia. Both of these universities currently provide courses online mainly for students and working adults.

Other universities that are using e-learning as a support technologies include University Malaysia Sarawak and Multimedia University Malaysia. University Malaysia Sarawak
came up with a plan of “setting up a virtual campus, which incorporates internal and external elements e.g. subject, registration, appointment with lecturer and bulletin boards” [7]. Multimedia university on the other hand, have developed their multimedia learning system. “Multimedia Learning System (MMLS) is a web-based intelligent courseware delivery engine that utilises multimedia to enhance the teaching and learning process. MMLS was developed with the underlying concept of a virtual teacher within a virtual classroom environment. The MMLS signifies the creation of an intelligent, interactive self-paced instructor-led, web-based teaching and learning tool.” Multimedia University Malaysia currently offers distance learning courses through e-learning [8].

INTRODUCTION TO INTI ONLINE

INTI College is currently implementing the e-campus to the scope to be internationalized. All the programs will be franchised and deployed in e-campus that can be accessible by students around the world. The INTI e-campus initiatives include the implementation of IT applications such as INTI smart card, Total Campus Management System (TCMS), WEBDOMAS, E-PRIDE, BRAVOS, EXAMODAS, EPT Online and INTI Online. INTI Online was developed in 2002 between the collaboration of INTI College and Inchone Pte. Ltd. The aim of INTI Online was to provide a linking bridge between its students and staffs academically. The main purpose of the system is to enable students and lecturers to interact through network, by delivering online learning resources and having online discussions.

METHODOLOGY
For this research, questionnaires were distributed by the author to INTI College Malaysia’s students with the aims of getting feedbacks from students on their perception of INTI Online features.

The study involves 100 final year students from the school of computing and information technology. The reason for choosing final year students is because they have spent a few years at INTI College Malaysia and have been using INTI Online throughout their studies at INTI College Malaysia. A set of questionnaires were given to the students to evaluate the features of INTI Online. The author also randomly picked 10 students who participated in the questionnaire and interviewed them.

FEATURES OF INTI ONLINE

INTI online currently provides several important e-learning features. They can be divided into different categories, namely Lecture materials, Assessment, Study Schedules, Discussion and Communication tools, and Support Tools.

Lecture materials

In order to achieve e-learning, one aspect that our system needs to cater for students is the ability to learn any time and anywhere. INTI Online allows the basic e-learning features of enabling lecturers to upload their teaching materials online. These materials can be lecturer notes, videos, audios, and other relevant materials. Upon uploading these materials, students are able to download these materials from Internet. At present, INTI College requires all lecturers to upload their teaching material online. INTI College is also working towards creating multimedia contents for most of the teaching materials.
available on INTI Online. In order to facilitate INTI College’s distance learning program, INTI College is also currently working towards standardizing lectures notes on INTI Online. This function has allowed students to gain access to their learning materials anytime anywhere. When students have missed a lesson, they are able to log in to the system and download the materials in the lecture which they have missed. The lecture material function is the most widely used feature of INTI Online. According to the questionnaires conducted by this research, almost 100% of the students access their lecture notes through INTI Online. Lecturers are also able to export their lecture materials for other lecturers to use.

**Study Schedules**

Study schedule is an important function which supports the lecture materials. Research findings have indicated that a well-structured study schedule help learners stay on task. As such, INTI Online provides a facility for instructors to organize all the learning materials uploaded into a study schedule.

In the study schedule function, lecturers are able to plan their lessons for the students. Lecturers will choose the study week, and decide or plan how many numbers of lecturers will be conducted within that week. For example, a lecturer teaching computer programming in week 1 of the lesson might decide to teach 2 lectures within the week. The lecturers are then able to choose the lecture notes they want the student to see during week 1. Besides that, the lecturers can also upload the tutorial, assignments and any other resources that are relevant to that lecture. This function allows students to follow a proper plan in their study.
From figure 1, we can see that during week 2, students will see 3 units of lectures. They are then able to click on the links to the lecture notes, tutorials and other relevant materials related to the units.

Although the study schedule is a good feature of INTI Online, the questionnaires conducted by this research show that less than 30% of the students know about the study schedule function. The findings show that this is caused by two reasons. Firstly, not many lecturers are making use of the study schedule function. Secondly, not many students are aware of such feature. Subsequent finding from this study shows that those who does use the study schedule functions, 90% of them think that it helps them to plan their study better.

**Assessment**
INTI Online allows lecturers to assess their students online. This feature is especially useful when the lecturers want to test the knowledge of the student upon completing a unit of study online. Lecturers can also allow students to take the online assessment to see whether they have completely understand the lessons they have taken. The advantage of the online assessment is that students can take the tests whenever and wherever.

The online assessment allows the lecturers to create 4 types of assessments: 1) Multiple Choice Question, 2) Multiple Response 3) True/False Question 4) Fill in the blanks.

The assessment function allows lecturers a lot of flexibility in creating the type of assessments which they want. Lecturers have the options of choosing creating entirely new sets of questions, or pick questions from the question bank. The question bank contains various assessments that were created by other lecturers. Thus different lecturers are able to share the questions.

One aspect of e-learning is the ability to create more interactivity between the system and the learners. A lot of e-learning systems do not provide e-learning, but in fact e-teaching. The current INTI Online assessment function provides more interactions through giving hints and feedbacks to the students while they are taking their assessments. Lecturers are able to set features such as the duration of the assessment, the passing score, the difficulty levels of the questions and the feedback they want to give the students upon passing or failing the test. This assessment feature of INTI Online is a powerful feature that allows students to test their own knowledge on the topics they have studied. From the study we have conducted, 10% of the students used the assessment feature. The feedback is that not many subjects they enrolled used this feature. This can be due to the fact that not
many lecturers are comfortable in creating an online assessment to the students. This feature is also slightly more difficult to use for lecturers who do not have sound computer skill. As a result, INTI constantly provides trainings on INTI Online to lecturers to enable them to make full use of INTI Online features.

Besides assessing students through quizzes, INTI Online also allows lecturers to check the students’ progress through progress reports. The progress reports allow lecturers to check how often have students log into INTI Online, and the time they have spent on INTI Online. When implementing e-learning, one difficulty for lecturers will be monitoring the progress of students. Unlike traditional instructor based learning where lecturers can note students’ attendance, it is slightly more difficult with e-learning. With INTI Online, lecturers can monitor the students by checking how often and how long they log into INTI Online. Students are also able to check on their own progress for the course through INTI Online.

**Discussion and Communication tools**

One important element of E-Learning is the interaction between students themselves, and students with the lecturers. As mentioned, asynchronous and synchronous trainings are two types of e-learning. In order to implement these two types of trainings, communication tools are thus needed.

INTI Online provides the communications and discussions functions through features such as INTI Forum, E-mail, and the Chat Room.
INTI Forum allows students to post message and discuss on the topics that they have created. However, from the feedback of the study that was conducted, majority of the students do not feel that INTI Forum has helped them on their study. This is due to the fact that the forums are used to discuss on variety of topics which are not relevant to their studies. From the study, 95% of the students have used the forum feature. However, from the interview conducted, not all of them used the forum for learning purpose.

The E-mail function allows the lecturers to e-mail the students in their class. This is a built in e-mail at INTI Online. This is convenient for the lecturers as they do not have to know all the e-mail addresses of their students. All students in their class are assigned to the class list whereby the lecturers can e-mail to all the students by choosing the class lists they want. E-mail function is used by 100% of the students who participated in the questionnaire.

The chat room enables lecturers or students to create a chat room to discuss on their studies. Lecturers and students are able to create private chat rooms or public chat rooms.

These communication functions are important to maintain the interaction between students and lecturers. At the moment, INTI College is planning to offer distance learning courses in the near future. One of the main methods for students from off campus to interact with their lecturers will be through the communication functions.

Support Tools
The support tools include functions from INTI Online that supports students learning. The support tools include the drop bin function, FAQ, Notices, My Progress, My courses and Events.

The drop bin function enables students to submit their course work to their lecturers. This is different from enabling students to e-mail their assignments to the lecturers. Firstly, the drop bin allows lecturers to create the title of the course work. Students can thus choose which “bin” they can submit their assignment to. The lecturers are also able to specify the maximum file size of the coursework that student can submit.

However, from the study conducted, not many students are using the drop bin function. Only 10 percent of the students said they have heard of this function. The reasons given by the student include the fact that lecturers prefer physical paper submission rather than electronic submission, and not many of them know about this feature.

The FAQ (Frequently Asked Questions) allows the lecturers to post any FAQ to the students. The lecturers can create FAQ that are related to their courses.

Other supporting tool such as event and notices allows lecturers to either post a notice to all the users of INTI Online, or they can choose to post an event only to the class.

My progress is similar to the progress monitoring offered by lecturers. The difference is that students will access to My progress to check their study progress.

My courses will allow students to check which courses they are currently taking.

**CHALLENGES TO INTI ONLINE**
At the moment, all students from INTI College Malaysia used INTI Online. There are more than 4000 thousands students and more than hundreds of lecturers who used INTI Online. INTI Online is currently monitored by Centre for Instructional and Technology Support (CITS). The roles of CITS include the monitoring of INTI Online to ensure that all lecturers upload lecture materials for the courses that they are teaching.

Currently the major problem faced by INTI Online is the readiness of the users. Although INTI Online provides many features of an E-learning system, not many lecturers or students are fully utilizing the features offered by the system. Although 100% of the students use INTI Online to download lecture notes, this is because lecturers are made compulsory to upload their notes online. Lecturers are not encouraged to print out notes for the students at INTI College Malaysia.
However, some of the more useful features of E-learning such as online assessment, drop bin, study schedules are under utilized by the lecturers and students. There are less than 50% of students who used these features. In fact, some of the students mentioned they have not heard of such features and do not know such features existed. This can be due to the reason that lecturers themselves do not use such features.

Many of the learners in Malaysia are exposed to teacher-oriented system. Therefore, it will take time for the students to switch to a learner-oriented approach. By introducing more e-learning at school and at higher institutions, learners will be more prepared for self-paced learning. At the moment, the result is surprising as the students are all final year student. The results show that they have not used or heard of some of the online learning features through their studies at INTI College Malaysia.

From the data collected, most of the students prefer their learning materials to be more interactive. At the moment, most of the lecture notes on INTI Online consist of PowerPoint presentations or word documents. However, INTI College Malaysia is currently developing more multimedia contents to the existing lecture materials.

**FUTURE WORK AND CONCLUSION**

At the moment, INTI Online is being planned to be used as a support system of INTI’s distance learning program. Currently the first stage involves lecturers developing their standard lecturer notes for the subjects that will be offered in the distance learning program. The next stage of the project is to develop more multimedia contents to the lecture materials.
More researches are being carried out by academic staffs at INTI College Malaysia on how to improve INTI Online. One interesting aspect involves applying to techniques of adaptive hypermedia or intelligent tutoring to the system to create a system that is capable of adapting contents to the students [6]. One area where the adaptation can take place includes adapting the learning materials to students based on their learning styles. However, more researches need to be carried out before such technologies can be applied to INTI Online.

The findings from this research shows that most students at INTI College Malaysia have been exposed to some parts of the features offered by INTI Online. However, many of them are still not making full use of the features offered by INTI Online. Further studies will be conducted in the future to determine the reasons for the under utilization of INTI Online and the methods to overcome these reasons.

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