

E-Learning in Malaysia: Moving Forward in Open Distance Learning

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Many higher education institutions have embarked on e-learning as a means to support their learning and teaching activities. In distance learning institutions, e-learning has enabled them to reach out to students dispersed over a wide geographical area, locally and internationally. In some countries, e-learning has also given students the opportunity to pursue further education from wherever they are irrespective of time and place. Malaysian higher educational institutions have generally been keen on e-learning. However, it is in the distance learning institutions such as the Wawasan Open University and Open University Malaysia, where e-learning has thrived and has been utilized for both pedagogical and administrative support. For example, by early 2009, the latter had an enrollment of over 78,000 students. Growing from a mere 753 students in 2001, the university's e-learning implementation, which is part of its blended learning pedagogy, is considered a huge success story. This article will outline Malaysia's e-learning scenario in general and highlight the success of e-learning in the country's first open and distance learning institution.

Introduction

A major national initiative, the Multimedia Super Corridor (MSC), was launched in 1996, to attract world renowned Information and Communication Technology (ICT) companies to invest in Malaysia. Since that time, the developments of ICT use in Malaysia have been fairly rapid and widely supported by the government. Such support includes the development of infrastructure for broadband Internet and wide use of networked technologies through the formulation of a national broadband plan. The objective is to reach a critical mass of 1.2 million broadband subscribers by 2010.

Based on the Internet World Statistics (2008), 14.9 million, or nearly 59 percent of Malaysia's population of 25.3 million is on the Internet; which is similar to Internet penetration in Singapore (58.6 percent). Elsewhere in the region, Internet usage was reported to be 20.5 percent of Thailand's population and 10.5 percent of Indonesia's population. The number of Internet users among Malaysians grew by more than 300 percent between 2000 and 2008. Based on the statistics from the Malaysian Communication and Multimedia Commission (MCMC) (2008), there were already 1,368,900 broadband subscribers at the end of the first quarter of 2008, supported by use of ADSL and wireless LAN technologies. At that time, there were nearly 1,500 wireless hotspots in places such as cafes, shopping centres, hotels, and college campuses. However, it is believed that many more hotspots have not been included in this total. In short, Internet access in Malaysia is among the highest in the Southeast Asian region. Internet use is expected to grow even more with the proliferation of mobile technologies coupled with the availability of increasingly affordable broadband Internet access. It should be noted that most, if not all, higher education institutions offer wireless Internet.

E-Learning in Malaysia

With about 70 government and private universities and university colleges in Malaysia, the role these institutions play in producing graduates who will be sought after by employers is key to the achievement of the country's vision to be a fully developed nation by 2020. The development of a knowledge economy will require computer savvy workers. Given such needs, it is imperative that institutions equip their graduates with the necessary ICT skills. In addition, the way one acquires knowledge is another way of assuring the relevance of workers for the knowledge economy. It is expected that a constructivist learning environment will be best for the development of critical thinkers and analytical minds. This is where some of the social networking tools of the Web 2.0 are expected to be increasingly integrated into courses offered by Malaysian institutions. However, few institutions in Malaysia are implementing Web 2.0 tools on a large scale due to limited bandwidth on college and university campuses.

One of the earliest widespread campus initiatives in eLearning was the development of an Online Learning Interactive System (OLIS) in 1999 for medical students at the International Medical University in Malaysia. Comprising 7,000 pages of textual descriptions of over 10,000 images, it was launched in 2000 with the incorporation of online forums. Ten years later, OLIS continues to be used with the exception of the discussion forums which were removed in 2003 due to insufficient use and instructor training. However, it should be noted that today the university has begun replacing their regular face-to-face problem-based learning sessions for the medical

students by using online forums. The entire faculty will have been trained to be online facilitators by early 2009.

According to a national e-readiness study conducted in 2004 among 4,625 students, 977 higher education academicians, 102 policy-makers, and 75 industrial players, Malaysians were moderately ready for e-Learning (Abas, Kuldip, & Harun, 2004). Among the students who responded, 31 percent expressed that they were very keen or ready for e-learning while another 59 percent felt they were moderately ready. Only about 10 percent of those who responded noted that they were not ready for e-learning. The survey, which was conducted in mid-2004, represented more than 50 educational institutions of higher learning. Should the study be replicated, a much higher level of readiness would be expected.

Based on a recent study of 1,350 learners at the Open University Malaysia (OUM) (Ch'ng, Abas, & Mansor, 2008), roughly 83 percent of those surveyed indicated that they could imagine themselves being engaged in mobile learning. It is interesting to note that 99 percent of the respondents have a mobile phone and that more than 50 percent of these were purchased less than two years ago. It was found that nearly three in four of these phones are 3G phones. Such findings indicate that when OUM embarks on a mobile learning initiative in early 2009, the majority of students should be ready for it.

When the same set of respondents were asked about the activities that they do on the Internet, the top five were: (1) searching (76.6 percent), (2) emailing (70.5 percent), (3) downloading files (67.2 percent), (4) uploading files (36.6 percent), and (5) online banking (30.8 percent). For learning purposes, 95 percent stated that they went into forum discussions and 39 percent accessed the OUM digital library. About 71 percent of students reported that they normally accessed the Internet from home.

Almost all higher education institutions in Malaysia today have learning management systems that provide students with access to important information and materials. This includes the academic calendar, course schedules, course outlines, campus announcements, forms, and course materials. The implementation, however, varies from one institution to another.

Not every course or every faculty member makes his materials available online. It is still not compulsory for OUM faculty members to do so. However, in some institutions, usually private ones, a majority of courses and associated materials, are made available online. In some institutions, discussion forums are part of some of their courses but student participation is not compulsory or awarded marks. Any other adoption of e-learning such as the use of Web 2.0 tools are usually left to the discretion of the lecturers. Only a minority have incorporated Web 2.0 tools in spite of having Generation Y learners on campus.

One of the factors affecting the technology integration decisions of faculty members is the general lack of broadband penetration. It has been observed that

in campuses with dual modes of instruction (full-time and part-time distance), learning management systems become an important delivery component for the distance offerings. Universities utilizing such dual modes include the Universiti Sains Malaysia and Universiti Teknologi Mara. In addition, in two of Malaysia's open and distance learning institutions, the Wawasan Open University (WOU) and OUM, e-learning plays a significant role. WOU is about two years old and offers blended learning opportunities which incorporates eLearning.

E-Learning at the Open University of Malaysia (OUM)

The OUM is the nation's first open and distance learning university. It has achieved remarkable enrollment growth with the adoption of e-learning as part of its blended pedagogies. In 2001, the first year of the OUM, it had just 753 students enrolled (Figure 1). By January 2009, enrollment at the OUM had mushroomed to over 78,000 students. The OUM started with the objective of addressing the needs of its adult working population who wish to pursue a university degree. Hence, the pedagogical model must be one that will be suitable for adult learners and involve elements that will be supportive of adult learning needs as they learn from wherever they are such as the home, office, or anywhere else, irrespective of time.

The "e" in the blend

OUM's pedagogical blend comprises three primary modes of learning: e-learning, face-to-face tutorials, and self-managed learning. The core learning material for all courses is the print module. In addition, learners are provided with face-to-face tutorials fortnightly or every two weeks. It is com-

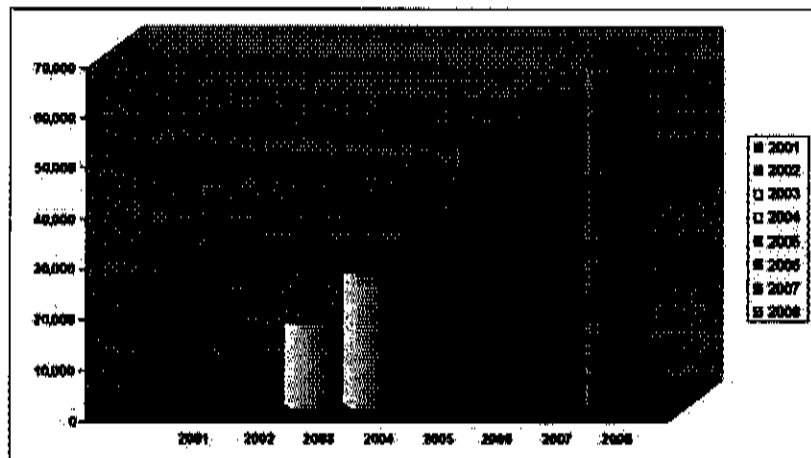


Figure 1. Student Enrollment at OUM.

pulsory for all learners to go online for discussions with their tutors and classmates regularly. Discussions take place in the university's learning management system called myLMS. Students are expected to respond to the issues posted by their tutors and should contribute to the richness of the interactions online. To help students succeed, the OUM has adopted the Community of Inquiry model of Garrison and Anderson (2003). This model is intended to help tutors ensure that deep learning is generated through the three types of presence: social, teaching, and cognitive. Students are awarded up to five percent of the course marks for their contributions.

Through the myLMS, various learning resources produced in-house are made available. Such resources include multimedia courseware (on compact discs), iTutorials (audio and video streaming), iRadio (audio streaming), Web-based modules, and iWeblits (web-based multimedia). Similarly, timely announcements, administrative forms, and other resources and materials are available for learners to view or download. In addition, the OUM community has access to the library digital collection comprising more than 17 online databases. Through these databases, more than 1.3 million titles are available in the form of books, theses, articles, reports, encyclopaedias, dictionaries, and other documents and materials. As Figure 2 illustrates, at OUM, the print module is the primary learning material. It is supported by other modes of learning.

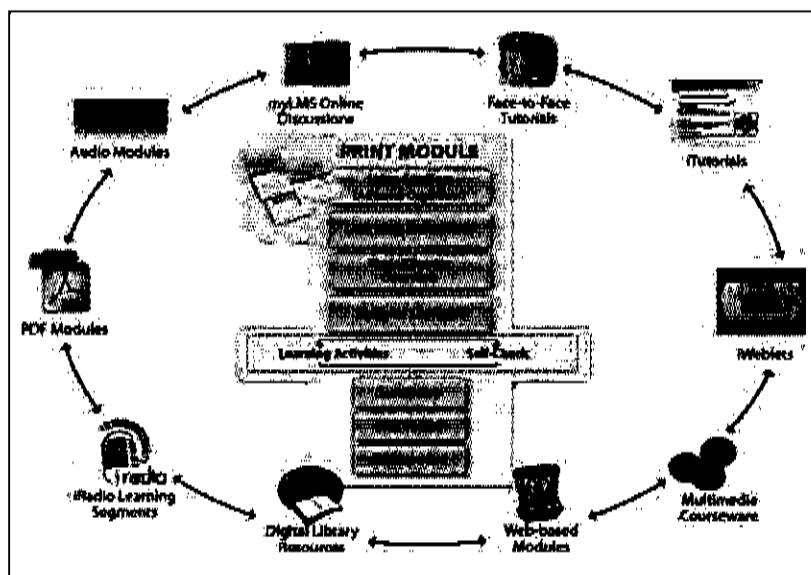


Figure 2. Blended learning at the Open University Malaysia (Note: adapted from Abas (2006a & 2006b)).

The key objectives of OUM e-learning initiatives include:

- To enhance learner access to learning materials;
- To improve education efficiency by increasing opportunities for collaborative learning and by making course materials available in a timely manner, 24 hours a day, seven days a week; and
- To improve learning effectiveness by encouraging learner interaction with tutors and classmates to support and promote collaborative learning.

It should be noted that although the number of students has grown by more than 80 times, the number of full-time faculty grew by less than four times over the same number of years. From less than 20 faculty members at the start, the OUM has 72 full-time faculty members today. The university, however, engages about 3,500 part-time tutors at any one time to assist with the face-to-face tutorials.

Tutorials are held in 61 learning centres throughout the country. Tutors are needed to help facilitate more than 500 courses taught in some 71 diploma, degree, and post-graduate degree programs. The Centre for Tutor Management and Development (CTMD) invites applications for part-time tutors from time-to-time by advertising in the major newspapers. Typically, the applicants are mostly lecturers from other public and private higher education institutions with a smaller number from the non-educational government or corporate sectors.

Next, those who are shortlisted are screened through interviews and details of those who pass the screening are entered into the tutor database. Before the start of each semester, the names from the database are identified. If they are new, they are next trained on how to fulfil their roles as face-to-face tutors, online forum moderators as well as academic counselors. Training is provided by the CTMD. The training is usually conducted either regionally or on site either by a full-time faculty member or the lead tutors who are appointed on the basis of their seniority and past proven performance.

The performance of tutors in the classroom and online are evaluated regularly. Learners are also invited to assess their tutors via online evaluation forms. Tutors who perform below expectation are removed from the system as part of OUM's quality assurance. As an OUM tutor, benefits include reduced fees for post-graduate programmes and from time-to-time, tutors are invited to colloquiums held by the CTMD as a way to engage them in dialogues with the OUM management on learner issues. Lead tutors also received notebooks to help them in their tasks.

Success Factors

Not all innovations succeed upon implementation. In fact, there are various levels and forms of success. At OUM, we have identified six important factors that contribute to the successful implementation of eLearning (see Figure 3). Each factor is briefly explained below.

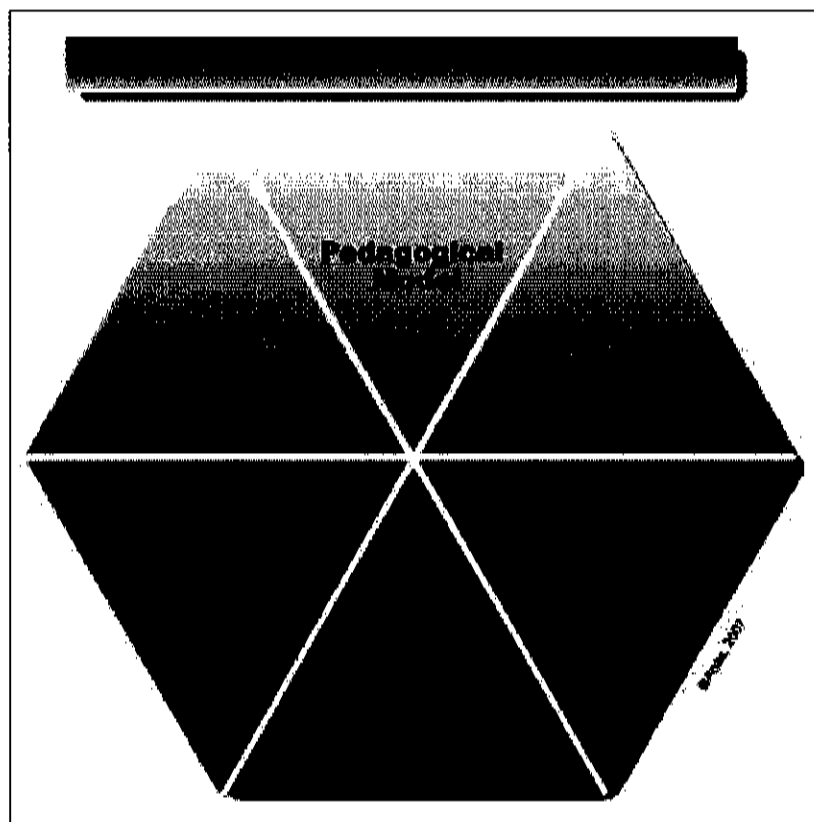


Figure 3. Success factors in eLearning at OUM.

Pedagogical Model

As suggested by Bates and Poole (2003), technology has an important place in university teaching, but it needs to be utilized with care and discrimination. It is no longer a question of whether we should use technology but in what contexts and for what purposes technology is appropriate for learning and teaching. At OUM, the blended learning pedagogies were formulated right at the start to cater to the adult learner learning patterns and styles and to optimize a variety of media in order to provide an environment conducive to learning. While the core learning material is the print module, other methods or media are used to support it (see Figure 2). Not all courses are exactly the same in terms of methods or media used. They vary depending on the optimal solution thought needed for a particular course.

Policies

Policies are important right from the start to support decisions made for e-learning. Investments in e-learning are substantial and the absence of policies to support its successful implementation will lead to failure. Policies will foster the enculturation of e-learning, while also helping to ensure that the facilities and resources are available in order to produce a positive e-learning environment. For example, to help all faculty members and staff become acquainted with e-learning, they need to be provided with the necessary ICT facilities such as notebooks, printers, and LAN or wireless Internet connections. Today, the initial group of tutors and learners who did not think much about online discussions in the first few years when OUM started are able to do so quite comfortably. To indicate how serious OUM considers the online discussion component, five percent of the course marks are allocated for students' active participation and positive contribution to the online forums. In the near future, the five percent may increase by up to 25 percent of the course.

Funding (Budget)

Sufficient funding is necessary to implement the policies effectively. The necessary purchase includes hardware, software, services, and the employment of relevant staff. The annual ICT budget allocated by the university comes to a significant amount, easily exceeding those in traditional universities in terms of percentage of the total capital and operating expenses.

Humanware

Having the right talent in adequate numbers is critical. They are critical in providing support to the development and maintenance of the ICT infrastructure as well as the development of e-learning solutions (materials, pedagogies, etc). Staffing includes not only technical staff to maintain equipment and systems but also programmers, graphic designers, animators, instructional designers, and Web developers to design and develop online learning materials. Several teams have been established within OUM and each is accountable for different aspects of ICT support. This work includes the design, development, and maintenance of various e-systems such as the OUM Web portal, learning management system, online marks entry system, multimedia courseware, iRadio, and learning objects.

Infrastructure

It is vital to ensure that the requisite facilities are available to create an effective e-learning environment for students. Such an environment includes computer laboratories, libraries, seminar rooms, tutorial rooms, and hotspots for wireless Internet access not only on the main campus but also in all the learning centres located throughout the country.

Infostructure

In our model, *infostructure* is defined as the organisation's information assets comprising hardware, software, networks, infrastructure, information, and applications. In effect, it recognizes that how these components are organized, managed and maintained is critical to the success of e-learning. At the OUM, all online systems, content, hardware, software, and access to the Internet need to be fully-accessible at all times. The main platform used by students is the learning management system, myLMS. It is crucial that this platform be used to support the learners and not simply help administration account for enrollments.

Moving Forward

OUM is now at a crossroad. After seven years of operation, in 2008, it recently carried out a study to evaluate the success of the online forums. Findings from an evaluation of 137 forums within 20 courses revealed that not all tutors were able to support the online discussions. In fact, there were tutors who were rarely present in some of these classes. As a result, the benefit of going online was not clear to the students. In August 2008, OUM revised its training of tutors for both face-to-face and online courses. Tutors are now asked to change their methods of supporting the online forums. For instance, they are expected to provide the three types of online presence – social, cognitive, and teaching – as explicated by the Community of Inquiry model of Garrison and Anderson.

In addition to those changes, with sophisticated mobile phones becoming increasingly affordable, the use of mobile learning to make learning more flexible and in a just-in-time fashion is increasingly possible as well as prudent. A mobile learning research group was established at the OUM in the third quarter of 2008 to investigate both pedagogical and technological implementation issues. A survey to determine how ready learners are was carried out. The results of this survey indicated that more than 8 in 10 students can see themselves engaged in mobile learning. While nearly half are expected to be ready for mobile learning within less than six months, another 17 percent believed they will be ready within six to 12 months. Of the 1,350 students surveyed, only about 6 percent felt they will be ready after 12 months. Interestingly, another 28 percent stated they would never be ready for mobile learning.

Thirdly, OUM is re-visiting the use of print modules as the primary learning material. It is now considering the provision of the same content on the Web with hyperlinks to the necessary activities, readings, and references. This will include use of podcasts and multimedia learning objects.

CONCLUDING REMARKS

The article has highlighted the contributions made by e-learning to the success of the OUM. E-learning has certainly contributed to OUM's exponential growth in terms of the number of learners enrolled. Hence, it appears that e-learning has permitted the university to live by its motto, "University for All." In many respects, e-learning can be regarded as a democratizing tool, enabling the university to quickly reach out to more students at an affordable cost.

OUM's vision is to be the leading provider of flexible learning. Hence, OUM provides a range of learning materials and uses a variety of learning modes to create a learner-centered environment. E-learning is part of the blended learning pedagogies implemented since the university enrolled its first group of 753 students in August 2001. In early 2009, OUM piloted a mobile learning initiative for one of its compulsory courses to provide yet another mode of learning. Based on a preliminary study conducted in the last quarter of 2008, of 1,350 learners, 82.6 percent of OUM learners see themselves as being part of the mobile learning community. Hence, the OUM and universities like it will need to evolve and change to meet these more mobile types of learners.

In addition to mobile learning initiatives, E-learning at OUM will continue to evolve to include various Web 2.0 tools. The OUM will soon be fine-tuning its blended learning pedagogical model to include improved ways of learning and to incorporate greater flexibility in line with its vision. As this occurs, thousands more Malaysians will likely find unique and rewarding online opportunities to improve their skills and competencies.

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