

# E-LEARNING CHALLENGES AS PERCEIVED BY COMMUNITIES OF PRACTICE: OPEN UNIVERSITY MALAYSIA'S EXPERIENCES

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## ABSTRACT

*E-learning has become ingrained in conversations that border around learning, however, how much and how effectively e-learning is practiced and understood is an issue that needs further investigation. This paper will first provide an overview of e-learning practices in Malaysia followed by detailed findings of e-learning practices at Open University Malaysia. Findings of a survey done on 26 Malaysian organizations show that only 4% truly practice some form of e-learning. Nevertheless most participants in the survey noted that e-learning will be the preferred choice in time to come. The survey also shows that most organizations are still very comfortable with a blended style of learning or training. Findings of a research conducted at Open University Malaysia (OUM) shows that as a new player in e-learning initiatives, the OUM has achieved much especially in ensuring that its over 30,000 students are practicing some form of e-learning. At OUM, although self-managed and face-to-face learning are the preferred choices, much effort and resources are pumped into e-learning in ensuring that OUM has the right mix for its blended mode. The paper will present a report on findings of e-learning and explicate issues within to determine how e-learning efforts can be further refined to support the overall blended pedagogy practiced at OUM.*

*Key words: e-learning, Open University Malaysia*

## AN OVERVIEW OF E-LEARNING IN MALAYSIA

E-learning has been a buzz-word in Malaysia since 1997, however e-learning has not really taken off as was found in a survey of e-learning initiatives among 26 organizations which included higher learning institutions, government agencies, and public libraries. The survey showed that 79% of these organizations used blended learning, followed by 17% face-to-face and 4 percent e-learning (Abtar, 2003).

Out of the 26 organizations, 65% (17) indicated that they had an existing strategy or policy for their e-learning approach, however they face the following challenges: building sustainable Internet facilities; finding or developing powerful content; and managing online interactions into a knowledge database to be tapped by others in the learning environment.

Feedback from the study also showed that there were barriers in the implementation of e-learning with the following results : (a) 23% indicated that e-learning course materials were not efficiently administered in their respective organizations; (b) 15% indicated that there were

inadequate training opportunities for staff and users; (c) 15% said that there was a lack in organizational strategy for e-learning; (d) 15% indicated that there was insufficient budget or it was too expensive and (e) 12% said that they were generally satisfied with the current face-to-face training system.

In terms of implementing e-learning, 50 percent of the organizations surveyed planned to implement e-learning programs in the next 1-3 years, 30 percent within a year, 10 percent within 3-5 years, and an additional 10 percent indicated that they had no plans. However, most of the organizations involved in the survey agreed that e-learning programs will be the dominant method of learning in the future.

Most of the organizations were in the implementation stage of their e-learning development. Nine organizations considered their e-learning activities as being centralized, four were departmental-based, and three relied on individual efforts. At the operational level, students and lower-level staff showed high acceptance for e-learning when compared to top or senior management and academic or middle management staff.

In sum, whilst Malaysian organizations recognize that e-learning has many benefits, they are not ready to implement it in its entirety. A more concerted effort needs to be taken to ensure that organizations that are ready and willing to implement e-learning "do-it-right" the first time to overcome de-motivation and failure. This is because, e-learning when implemented correctly can bring learning benefits and reduce much overheads.

### **BLENDED LEARNING AT OPEN UNIVERSITY MALAYSIA (OUM)**

OUM started its operations in 2001 with 800 students. Today we have over 30,000 students enrolled. E-learning at the OUM is subsumed within a bigger learning pedagogy which is blended. The OUM blended pedagogy consists of three different methods of learning delivery that is: (a) Self-Managed Learning; (b) Face-to-Face Learning; and (c) e-Learning (see Figure 1).

### **SELF-MANAGED LEARNING**

Self-managed learning is learning that is managed by the learner and the learner is expected to invest a total of 70 percent of learning time using this method. To support learners in self-managed learning, the OUM provides them with specially constructed print-based modules. The modules are designed by a team consisting of a subject-matter expert, a moderator, an instructional designer, a graphics designer and a desk-top designer. Together, the team takes approximately 6 months to produce one learning module. The module is written in simple instructional language and content is focused towards the achievement of learning outcomes specified in every topic. A module may consist of up to 15 topics and each topic is approximately 15 pages in length. The major instructional design elements incorporated into the module which are aimed at attaining motivational elements as specified by Keller's (1979) ARCS (Attention, Relevance, Confidence and Satisfaction) Model are: a concept map, specification of learning outcomes, a compelling but brief introduction to the topic, the use of all or some of the following instructional activities: "think about"; "your idea", "exercise"; "pre and post -test" and a summary. Apart from that, the content is written in short easy to understand

sentences, supported by appropriate graphics. Specially constructed multimedia courseware is provided for certain modules.

To support learners in self-managed learning, the OUM provides learners with access to the digital library which has more than 40,000 titles of digital books; 250 titles of online dictionaries, encyclopedias, handbooks, and thesauruses; close to 1 million journal articles; and about 15,000 journal titles. Selected text-books and reference books are also kept in physical libraries at almost all of the 33 learning centres. At the main campus, the physical library accommodates over 11,000 titles.

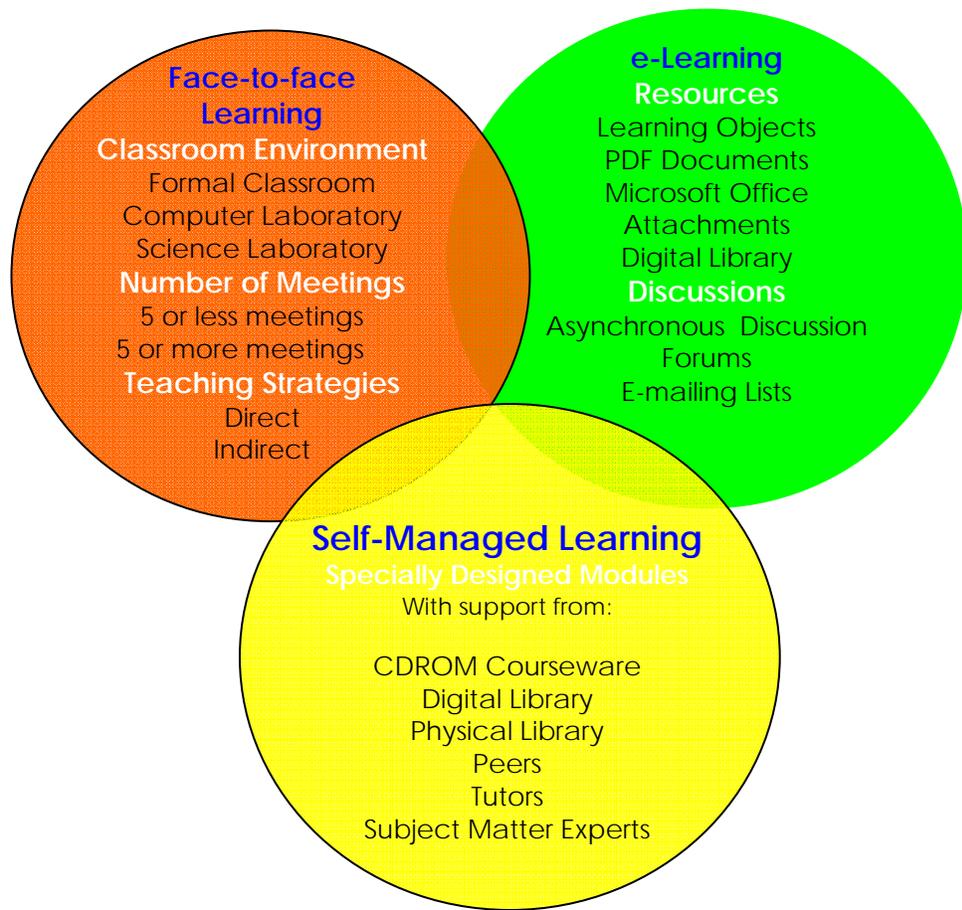


Figure 1. The OUM's Blended Learning Model

## FACE-TO-FACE LEARNING

In face-to-face learning, learners are given the opportunity to attend an actual class at a learning centre nearest to them. Called a tutorial meet, learners meet tutors every fortnight, with each meeting lasting 2 hours for 5 times per 15-week semester for each subject taken. Each tutorial class accommodates up to a maximum of 25 students. The following is a rough scenario of what happens in a 2-hour tutorial meeting:

- a. House-keeping (approximately 10 minutes)
- b. A mini-lecture on difficult concepts in the module (approximately 30 minutes)
- c. Discussion and presentation of an exercise/task/case/study/issue by learners (approximately 40 minutes)
- d. A short test which is administered at the second and fourth tutorial (30 minutes), and during other tutorial meetings the following could happen:
  - Question and answer session (30 minutes)
  - Discussion of assignment question (30 minutes)
- e. Ending the session (10 minutes)

The face-to-face learning makes up about 18 percent of learning time. To support learners in maximizing the learning, the following are some steps taken by the OUM:

1. Provide learners with a conducive learning environment. Learning centres either belong to OUM and/or are selected based on a fairly high specifications to suit learner needs in terms of accessibility, appropriate classroom size and furniture, and support facilities for teaching and learning.
2. Provide learners with well-selected and well-trained teaching personnel whom we call part-time tutors. Tutors are selected using a vigorous selection process whereby they are first invited to apply online, short-listed by the Faculty and interviewed. They are then trained in open-distance learning pedagogy practices by OUM for 1.5 days.
3. OUM also monitors the actual teaching process of these tutors and provide feedback for further improvement in the pedagogical techniques employed by the tutors. Here, OUM has a team of close to 60 Lead Tutors to support us at the 33 learning centres.
4. Feedback through structured questionnaires from learners, is also an essential instrument for quality improvement. Tutors who do not perform are not re-employed.
  - Thus far, evaluations on tutor effectiveness from 4,903 students on 193 tutors for the May 2004 Semester among others showed that more than 90 percent of OUM tutors were eager to support learners in their learning processes, were well prepared for all tutorials, were competent in the subject, helped learners understand the content area, and generally should be retained (Report submitted by ODL Pedagogy Center to OUM Dean's Meeting on 24 August 2004).

## E-LEARNING

In e-learning, learners 'attend' a virtual class. The same learners who meet once a fortnight in the actual classroom meet in their virtual classrooms. Virtual classroom interactions make up another 10 % of total learning time and students are also accorded 5% marks for the online discussions for the final assessment. To support learners in online learning, the following are done:

1. Ensure learners are provided the virtual classroom space. This is enabled via the online learner management system which is called myLMS (see Figure 1). Learners access the virtual classroom using a password.
2. Provide learners with the following resources in the virtual classroom:
  - Specially constructed learning resources such as learning objects, power-point slides, word documents and excel documents
  - Course synopsis and PDF version of the module
  - Online self-assessment in the form of quizzes
3. Provide online discussion space: here the learners are able to do the following:
  - Engage in discussions on a particular question posed by the tutor
  - Engage in Q&A on content that they don't understand
  - Engage in discussion of their assignment question
  - Engage in social talk

The myLMS is a powerful learner management system that allows the tutor to monitor online participation, enables instant emailing on a one-to-many and one-to-one basis, and enables the course coordinator to upload materials and create assessment items.

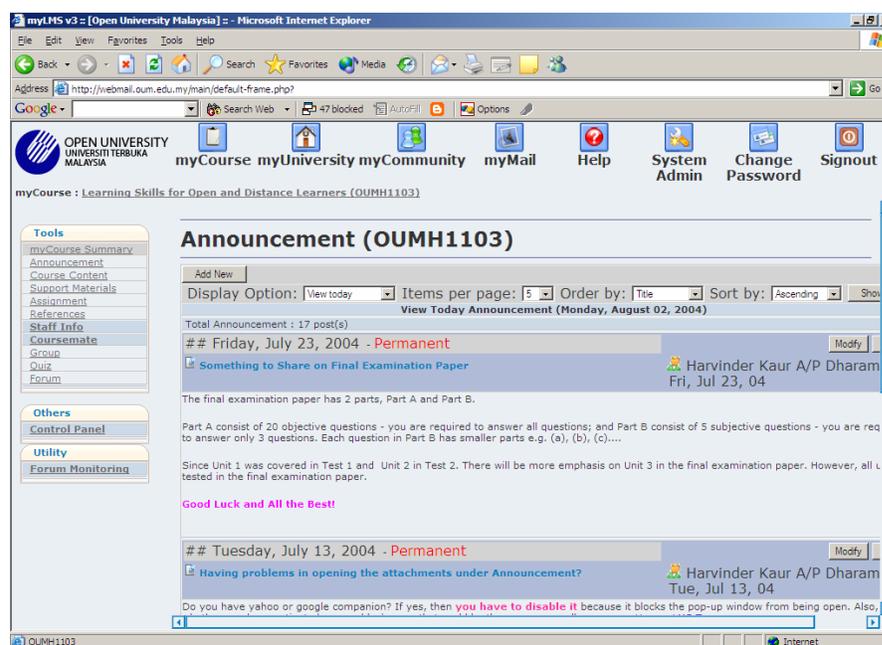


Figure 2: The Entry Page of myLMS

## RESEARCH ON ONLINE/E-LEARNING AT OUM

A study on the effectiveness of online discussion was conducted in 2004 (Report submitted to the Director, CQMRI, OUM on 5<sup>th</sup> January, 2005). The objectives of the research were:

- i. To determine the pattern of online interaction among OUM tutors and learners.
- ii. To ascertain the quality of online discussion provided by OUM tutors.
- iii. To determine the perceived effectiveness of online discussions among OUM learners.
- iv. To determine the perceived effectiveness of online discussion among OUM tutors.

Two kinds of data sets were analysed: qualitative and quantitative.

### QUALITATIVE DATA ANALYSIS

For the qualitative data, protocol analysis was carried out consisting of 2851 postings gathered from 35 tutors and 255 students. Qualitative analysis was conducted to determine the pattern of online interaction and quality of online discussion. In determining the pattern of online interaction, each message posted by tutor and learner was analysed according to each question in the *Checklist for Online Discussion Forum Instrument*. Whereas in determining the quality of online discussion by OUM tutors, online discussion postings were analysed against a set of rubrics. The following rubrics were used:

- a) Motivation
- b) Communication
- c) Engaging the Learner
- d) Knowledge Building
- e) Encouraging Higher Order Thinking
- f) Collaboration
- g) Technology Support

Tutors' messages were read and analyzed according to a set of criteria for the seven rubrics above. Here each posting was given an excellent, good, satisfactory or 'requires more effort' grade based on the criteria. The final recordings were transferred into a form for tabulation and analysis .

### QUANTITATIVE DATA ANALYSIS

2 sets of questionnaires were developed to determine the perceived effectiveness of online discussion among OUM learners and tutors. A total of 255 students and 17 tutors responded to an online questionnaire. The questions consisted of the following: (i) content of the online discussion forum (ii) interaction in the online discussion forum (iii) feedback received from tutor (iv) motivational strategies used by tutor (v) general features of myLMS and (vi) level of participation in online discussion forum. The data was analysed using SPSS.

A summary of the findings is as follows:

#### 1. Pattern of Online Discussions:

- Tutors were more active than learners in the online discussion forums.
- Issues discussed were related to the course
- Issues raised by learners were at low reasoning levels
- There was very little connection between what happened in the actual and virtual classrooms

## 2. Quality of Online Discussions:

- 68% of OUM tutors provided some kind of motivation to learners
- 90% of OUM tutors communicated excellently
- More than 90% of OUM tutors did not support learners in the following:
  - How to engage learners
  - How to support learners in knowledge building
  - How to encourage higher-order thinking
  - How to encourage collaborative learning

## 3. Learner and Tutor Perceptions of Online Discussions

- On the whole, learners were less happy with the quality of content discussed in the online forum as compared to tutors
- Learners found more satisfaction in peer-to-peer interaction (74%) as compared to learner-to-tutor interaction (69%).
- About 65% of learners perceive the quality of feedback (correct, immediate and comprehensible) by tutors to be good.
- Between 60-81% of learners perceived tutors to have used good motivational strategies.

## **DISCUSSION OF CHALLENGES**

The above findings provide a general landscape of the repertoire of learning behaviors in an online (e-learning) environment. The following challenges are noted and discussed:

### **Active and Meaningful Interactions by Learners**

Findings from pattern of online discussion reveal that OUM learners were generally less active as compared to OUM tutors in the online discussion forum. Findings also showed that issues raised by students were at low levels of reasoning and also less meaningful. Thus it is crucial that some strategies be adopted on how tutors can guide learners to be more active and also raise the level of reasoning when in communication with peers or experts. One strategy that has been adopted is by having more learner-centered activities.

With regards the level of reasoning, tutors need to ensure that tutorial activities are pitched at higher and higher levels as students progress through the semester. In this instance, the Bloom's (1956) Taxonomy of learning outcomes is an excellent guide. Starting from the knowledge, comprehension and application level of outcomes, progress on higher-level reasoning can be made by giving activities that involve case analysis, synthesis and evaluations. It is also crucial that tutors be made to understand that what is practiced in the actual classroom is maintained in the virtual classroom discussions. In this respect, Horton (2000) states that a successful online discussion has the same synergistic effect of group or face-to-face discussion, in which students build on one another's perspectives to gain a deeper understanding of the materials. In ensuring successful learning in both the actual and virtual classrooms, it is advisable to keep the Keller's Motivation Model (ARCS) in mind: that is to constantly atttract learners, make the discussion relevant to their needs, give them the confidence and ensure the total learning experience is satisfying. We at OUM are in the midst

of redesigning the mix to ensure that students are immersed a seamless online and offline learning environment.

### COMPETENT TUTORS

It is said that excellence in online tutoring is fundamentally no different from excellence in other forms of teaching. According to Salmon & Giles (1997), *it requires enthusiasm and involvement, intellectual perception & insight and ability to model an understanding of subject matter. It has to be highly interactive and collaborative.* A relevant question then to ask here is: "Did the OUM tutors portray competence in supporting learners in an online environment?" One measure of tutor competency is if they could easily relate interactions in the virtual environment to the actual classroom. In investigating the pattern of online interactions, it was found that only 9.5% (88 out of 922 tutor postings) demonstrated this. Further, analysis of online protocol postings showed that more than 90% of tutors did not engage learners in a meaningful way, did not enhance knowledge building, did not encourage higher-order thinking and did not encourage collaborative learning. However, analysis showed that the tutors fared excellently in motivating students and communicating well which corresponds with Salmon (1998) 5-stage model: that in the initial stage of online learning, it is important to motivate and communicate well with students.

Tutor competence can be improved in order to maintain and encourage student-centered learning. One method is to develop better training protocols for more effective online tutoring. Secondly, is to have tutors evaluate online discussion forums of more effective online tutors. In this manner, tutors will improve their online discussion skills.

### Supportive Institution

Was the institution supportive of online learner needs? Data gathered from learner perceptions on the 'virtual classroom' or myLMS showed that generally learners did not have difficulty accessing the virtual classroom, support from the myLMS team was immediate and that they were happy with the way the discussion forum was displayed. These attributes are important for learner ease and comfort.

### RECOMMENDATIONS

In this section, we provide three recommendations on how a more successful e-learning experience can be achieved at the OUM:

#### **Institute a Learning, Un-learning and Re-learning Policy.**

It is imperative that OUM's blended pedagogy be laced with a new mind-set for the various learning phases whereby a concerted effort should be taken to ensure learners and tutors break away from previous mind-sets. As is the norm, learners are used to being fed with information and tutors are used to taking centre stage. According to Harnish (2001), in an online discussion, teachers (tutors) should support the development of learner's skills such as critical thinking, negotiation, diversity in thought and communication. In the OUM tutor training manual although the following 9 steps are provided for a successful online learner-centered learning environment: *welcome students to the discussion forum, start discussion by posing an easy question, encourage students to respond to the question, look out for lurkers, persuade*

*them to participate, read and respond as often as possible, encourage higher-level questions and discussions, encourage collaborative learning, summarise often and constantly update students*, it is found that both tutors and learners do not easily adhere to such steps. Other researchers (Morgan, 1999, Alley & Jansar, 2001, Bonk et al, 2000) have indicated in similar tones the methods for successful online discourse. Our experience at OUM now indicates that merely giving steps and suggestions are not sufficient, a more rigorous and systematic discourse needs to be practised and implemented.

### **Provide Alternative Blended Options**

Beginning September 2005, OUM learners will be provided another alternative to the current blended model. Learners will be given an option to either learn using the existing model or select a pure online model. In the pure online model, there will not be any face-to-face tutor support. OUM is confident that some of the senior students who have been with us for close to 9 semesters will be comfortable enough with the pure online model. OUM is also confident that we now have a pool of tutors who have understood the roles and responsibilities of the online tutor and can support the learners purely online.

An early indication that this method might bring some success is a pilot study done using a personalised learning mode in the January and May semester of 2005. More positive results were recorded in the May Semester as a result of analysis of online interactions involving 205 active students and 19 tutors in this mode. A total of 3940 messages were posted, of which 1532 were by the tutors (39%) and the rest by the students. It was required that since students were meeting tutors less in the face-to-face classroom, tutors were compelled to conduct active discussions online with the students. Tutors explained difficult concepts as well as conducted focussed online discussions. Ongoing monitoring of the personalised method of

The final conclusion to the report was stated as such:

"Most students participated actively in the online forum and some willingly assisted their peers in solving problems. Some tutors acted more like facilitators" (Report submitted to the Senior Vice president on 25<sup>th</sup> July 2005).

### **Provide more strategic training to Tutors**

- a. The Collaborative Online Learning Environment
- b. Training via Modelling

#### ***The Collaborative Online Learning Environment(COL)***

The goal of collaborative online learning at OUM is to build an interactive learning community among learners whose discussions will lead to the achievement of specific learning goals that will supplement and complement their other learning activities. Initially tested with two courses in May and September, 2004, respectively, COL has also been implemented in seven courses in January 2005. The group activity based on a learning task that is related to the course assignment was written by the Subject-Matter Expert with the help of two COL Project Leaders. Today, COL has benefited over 8,000 learners from nine different courses from each of the six academic departments at OUM. (Abas, Ahmed, Kaur, and Harun, 2005)

In the COL model (see Figure 3) learners are given a content-specific activity for discussion online for a certain period of time. Learners will be involved in several learning processes: discussion, explanation, justification, sharing of information and resources, analysis and problem-solving.

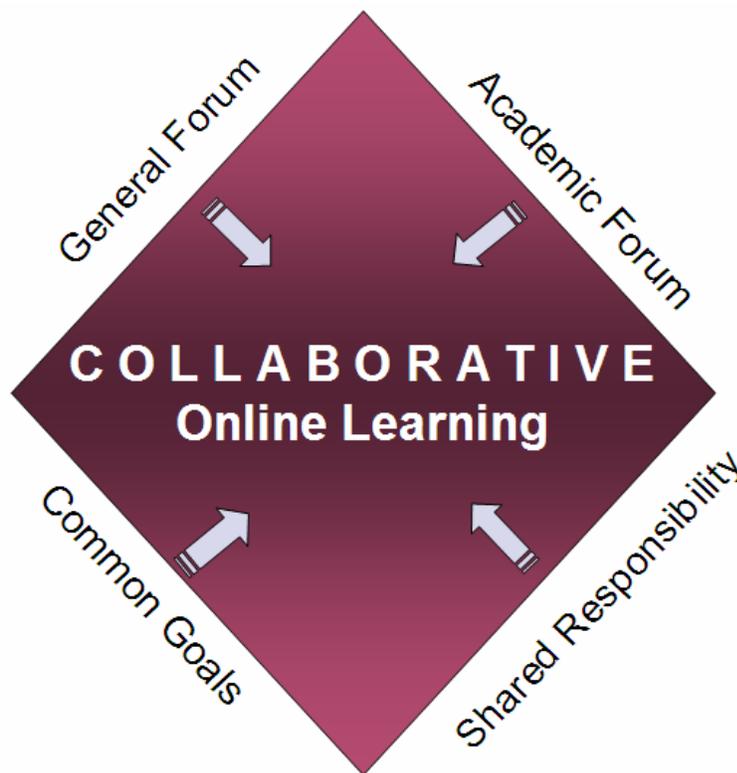


Figure 3. The Collaborative Online Learning Model

The four components of the model are: General Forum, Academic Forum, Shared Responsibility and Common Goals. Here two important components namely the General Forum and Academic Forum will be discussed:

- a. The General Forum allows learners to post questions and responses to their tutor or to their peers. This forum is meant for exchange of information on non-content related matters such as schedules, deadlines and learning resources.
- b. The Academic Forum is focused on the content-specific activity such as the assignment and tasks for formative assessment. The crucial difference between the two is that the former may not be directly moderated by the tutor but by the learners themselves. The latter is more structured and will require the tutor's presence on a regular basis and quality moderation is essential.

### ***Training via Modeling***

In an attempt to improve the quality of online discussion forums, the method used to train OUM tutors have been re-designed, whereby tutors are trained online for approximately 2 weeks before the one-day face-to-face tutor training. This method of training has implications of learning by modeling whereby, tutors learn effective online discussions when modeled by more effective online tutors. Apart from that, tutors get immediate hands-on experience of the Learning Management System and have a chance to clarify technology related issues before they go full fledge with the students. One activity that had benefited most tutors is the sharing and discussing of a tutorial outline, which consist of 2 sections : tutorial outline for F2F interactions as well as online discussions questions (Appendix 1). In this way, tutors are mentally ready with the topics to be covered and they can launch into preparation work.

The Training via Modeling method started in May 2005 and a total of 664 tutors attended the training (report presented at Dean's Meeting, June 2005). A total of 329 tutors who attended the training provided feedback to a 27 item questionnaire using a five-point likert scale. The overall rating was 4.25. Some relevant results are presented :

Clarity of presentation of content (4.25)

Interest created by trainer (4.19)

Depth or coverage of content (4.13)

Interactive discussions (4.26)

Encouragement by trainer (4.24)

Quality of activities (4.11)

### **CONCLUSION**

In this paper, we have provided research findings of e-learning in Malaysia as well as e-learning initiatives at the OUM. Using data of these initiatives, we have concluded that a neat blend of pedagogical approaches can be instituted provided there is a more systematic approach in the manner online and offline discourses are implemented. We have suggested to break away from giving pointers on 'the how to' but rather create a more systemic effort for change to take place as well as increase the stakes in online learning.

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**Appendix 1:**

**Tutorial Outline for  
Learning Skills for Open and Distance Learners (OUMH1103)**

Semester : September 2005  
 Number of tutorials : 5  
 Duration of each tutorial : 2 hours (120 min)

**Outline for Tutorial 1**

	<b>Task/Activity</b>	<b>Duration (time) (approximately)</b>
<b>Face-to-face Interaction</b>		
1.	Ice-breaking and introduction to the course	10 min
2.	Mini Lecture cum discussion – Topics 1 and 2	45 min
3.	Hands-on myLMS (Topic 2)*	30 min
4.	Discussion of Assignment Question and Topic 5	30 min
5.	Conclude the day's lesson and share outline (or what to prepare) for next tutorial	5 min
<b>Online Interaction</b>		
	Suggested online discussion question:  a) Assignment discussion b) Share your views on how you would play your role as an independent learner in an open and distance learning environment.	Between Tutorial 1 and Tutorial 2 (approximately 02.09.05 to 18.09.05)

\* Computer Lab with the Internet connection availability is very important

**Outline for Tutorial 2**

	<b>Task/Activity</b>	<b>Duration (time) (approximately)</b>
<b>Face-to-face Interaction</b>		
1.	Share outline for the day	5 min
2.	Mini Lecture cum Discussion and Hands-on Information Retrieval Skills – Topics 7* and 8*	60 min
3.	Mini Lecture cum Discussion – Topic 5 (relating it to the Assignment Question)	20 min
4.	Conclude the day's lesson and share outline (or what to prepare) for next tutorial	5 min
5.	Administer Test 1 ( 20 objective questions)	30 min
<b>Online Interaction</b>		
	Suggested online discussion question:  a) Assignment discussion b) How would you get accurate results for searching information of a research title "..."? Discuss.	Between Tutorial 2 and Tutorial 3 (approximately 16.09.05 to 02.10.05)

\* Computer Lab with the Internet connection availability is very important

### Outline for Tutorial 3

	Task/Activity	Duration (time) (approximately)
<b>Face-to-face Interaction</b>		
1.	Share outline for the day	5 min
2.	Mini Lecture cum Discussion – Topics 3 and 4	45 min
3.	Hands-on MS PowerPoint (Topic 10)* and discuss assignment question	20 min
4.	Hands-on MS Word and MS Excel (Topic 10)*	40 min
5.	Conclude the day's lesson and share outline (or what to prepare) for next tutorial	5 min
<b>Online Interaction</b>		
	Suggested online discussion question:  a) Assignment discussion b) How will you get a proper chart given a set of data (by tutor) using Excel. Discuss	Between Tutorial 3 and Tutorial 4 (approximately 30.09.05 to 16.10.05)

\* Computer Lab availability is very important

### Outline for Tutorial 4

	Task/Activity	Duration (time) (approximately)
<b>Face-to-face Interaction</b>		
1.	Share outline for the day	5 min
	Discuss Test 1 questions	20 min
2.	Mini Lecture cum Discussion – Topics 6 and 9	50 min
3.	Pass up assignment	10 min
4.	Administer Test 2	30 min
5.	Conclude the day's lesson and share outline (or what to prepare) for next tutorial	5 min
<b>Online Interaction</b>		
	Suggested online discussion question:  a) A case study to discuss on ethics. b) Discuss how would you evaluate the information (given by the tutor) using the 5 information evaluation criteria.	Between Tutorial 4 and Tutorial 5 (approximately 14.10.05 to 13.11.05)

### Outline for Tutorial 5

	Task/Activity	Duration (time) (approximately)
<b>Face-to-face Interaction</b>		
1.	Share outline for the day	5 min
2.	Mini Lecture cum Discussion – parts of topics that has not been covered or areas that are still “muddy” to the learners (tutor can find it out by asking the learners to write down 2 most muddiest areas after each tutorial lesson)	60 min
3.	Discuss Test 2 questions	20 min
4.	Revision	30 min
5.	Conclude the day's lesson	5 min
<b>Online Interaction</b>		
	<p>Suggested online discussion question:</p> <ul style="list-style-type: none"> <li>a) Revision question</li> <li>b) Interactive Game : Learners post (revision or any other topic) questions for peers to answer and also provide the feedback. Each learner is limited to ask only 1(or 2) question(s) but can answer/give feedback as many times as he/she wants. The learners are responsible to “keep the ball rolling”.</li> </ul>	<p>Between Tutorial 5 and Examination (approximately 11.11.05 to 23.11.05)</p>

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