WawasanLearn: An evolving Interface in LMS

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Abstract

Pedagogical approaches are primary factors in designing interface for learners with the e-resources. Three approaches have been used in Wawasan Open University's first LMS presentation. Based on students', tutors', and course administrators' feedbacks, an attempt has been made to 'rationalize' the presentation interfaces for the next semester's courses. Can the new format meet the requirements of most courses, or are there endemic features that are pedagogically relevant that may require further rationalization of the presentation mode? The paper will discuss issues related to content and context of the course and provide guidance to further improve the e-learning opportunities.

Introduction

Learning Management Systems (LMSs) are the primary conduit of information, lessons and discussions for on-line learning at any level of education. Wawasan Open University (WOU) has also embarked on this path and is currently using Moodle as its platform. For the inaugural semester, 7 courses have on-line contents and sessions to augment and supplement the primary print-based course materials.

The aforesaid description of an LMS may be too generic and would serve little pedagogical purpose. A survey of any 5 ODL sites that engages LMS as a web presence would illustrate the variety and diversity of philosophies behind the web front pages. Some LMS would focus more on the institution's structure and programmes, some LMS will be based more on clients (mainly the students). For most LMSs that we may encounter, they generally have a 3-pane presentation with left and right columns for specific displays of calendars, courses, events, etc, and a bigger middle column with academic contents, courses, and animated sub-screens. Thus the term LMS has much more implications than just presenting instructional information. LMS has in fact disparate entities that must somehow, in the final analysis, be coherent yet different. This suggestion supports the position of Britain and Liber (2004) in evaluating LMSs:

> An LMS is not a single tool—it is a collection of common tools that have been put together into a single environment to support online education. So, for example, a simple LMS might include a notice board tool for teachers to put up announcements; a course structuring tool; a folder for resources; a discussion forum tool; and other features such as a calendar, chat tool, a wiki, and so on.

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1

Existing evaluations were based on a tick-box grid, identifying which features were present in any given LMS. Although this approach was useful, it missed the subtle ways the tools integrated to support different pedagogical models and educational contexts.

WawasanLearn's 3 formats of presentation

As a new player in e-learning, we have a steep learning curve, and we do not exactly have prescriptions to web presentation of the seven courses that were offered. Our only guideline is "get it out fast" based on the platform made available to the Educational Technology Unit, and relaying the necessary information to the Course Coordinators as the custodian of the academic contents. Thus, while the presentation 'face' is more or less pre-determined, the main contents and their display and layout in the mid-column vary. Moodle or for that matter, and web-based LMS allow for some flexibility in the way contents are displayed.

For *WawasanLearn*, our seven courses are thus presented to the individual learner quite differently depending on the course he or she has registered for.

Different presentation modes of the courses:

By unit:
University Mathematics, Foundation Mathematics, Learning Skills, Bahasa Kebangsaan A and Foundation English courses are structured so that each section contains all the available resources grouped by their units in the course.

By week:
For Principles and Practice of Management the supporting course materials are given on a weekly basis for the students to manage and plan their studies better.

By resources:
Computing I and Microeconomics. The courses are resource driven meaning that each section has specific types of resources available for the students.

The screen shots of these three presentation modes are shown in Figure 1, 2, and 3.
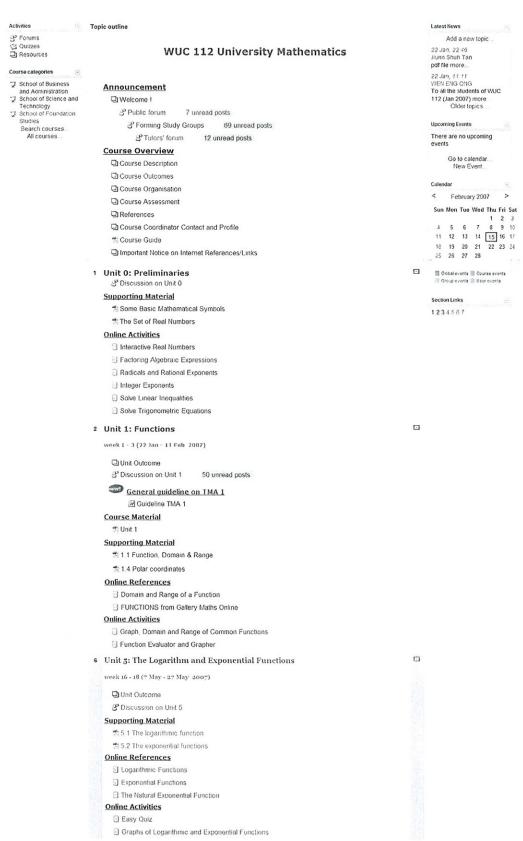
Topic outline

WUC 112 University Mathematics

Announcement
- Welcome !
  - Public forum   7 unread posts
  - Forming Study Groups   69 unread posts
  - Tutors' forum   12 unread posts

Course Overview
- Course Description
- Course Outcomes
- Course Organisation
- Course Assessment
- References
- Course Coordinator Contact and Profile
- Course Guide
- Important Notice on Internet References/Links

1 Unit 0: Preliminaries
- Discussion on Unit 0

Supporting Material
- Some Basic Mathematical Symbols
- The Set of Real Numbers

Online Activities
- Interactive Real Numbers
- Factoring Algebraic Expressions
- Radicals and Rational Exponents
- Integer Exponents
- Solve Linear Inequalities
- Solve Trigonometric Equations

2 Unit 1: Functions

week 1 - 3 (22 Jan - 11 Feb 2007)

- Unit Outcome
- Discussion on Unit 1   50 unread posts
- General guideline on TMA 1
  - Guideline TMA 1

Course Material
- Unit 1

Supporting Material
- 1.1 Function, Domain & Range
- 1.4 Polar coordinates

Online References
- Domain and Range of a Function
- FUNCTIONS from Gallery Maths Online

Online Activities
- Graph, Domain and Range of Common Functions
- Function Evaluator and Grapher

6 Unit 5: The Logarithm and Exponential Functions

week 16 - 18 (7 May - 27 May 2007)

- Unit Outcome
- Discussion on Unit 5

Supporting Material
- 5.1 The logarithmic function
- 5.2 The exponential functions

Online References
- Logarithmic Functions
- Exponential Functions
- The Natural Exponential Function

Online Activities
- Easy Quiz
- Graphs of Logarithmic and Exponential Functions

Figure 1: Course Presentation by Unit

3

Topic outline

BBM121: Principles and Practice of Management

Course Overview

▣ Textbook

▣ Supplementary Readings

▣ Course Aims and Objectives

▣ Suggested Study Schedule for BBM 121

▣ Course Coordinator Profile and Contact

▣ Important Notice on Internet References/Links

Announcements from Course Coordinator

▣ The Course Coordinator's Welcome Message

⚡ Announcements From Course Coordinator to Students   39 unread posts

⚡ From Course Coordinator to Tutors   41 unread posts

Announcements from Tutor

⚡ Announcements from Tutor   26 unread posts

⚡ Learning Materials from Tutor   5 unread posts

Online Forums

⚡ BBM 121 Public Forum   19 unread posts

⚡ Forming Study Groups   43 unread posts

⚡ Group Forum   27 unread posts

1   **Week 1 (22Jan - 28Jan): Unit 1- Management and The Evolution of Management Thought**

   Topics to learn: What is management and what do managers do; Is the manager's job universal

   Power point
      ▣ Lesson 1 and 2
   Tutor-Marked Assignment
      ▣ TMA 1
   Discovery Links
      ▣ The Best and Worst Managers of the Year
      ▣ Are you an effective manager?
   Forum
      ⚡ The characteristics of good and bad managers   6 unread posts

2   **Week 2 (29Jan - 4Feb): Unit 1- Management and The Evolution of Management Thought**

   Topic to learn: Early development in management thinking
   Power point
      ▣ Lesson 3
   Forum
      ⚡ Scientific Management

18   **Week 18 (21May - 27May): Unit 5 - Control**

   Continue the Week 17's topic: Operations Management

   Power point
      ▣ Lesson 3
   Discovery links
      What is Six-Sigma?
      What is Mass Customisation?
      The Basics of Enterprise Resource Planning (ERP) from Cio.com
   Forum
      ⚡ Operations Management
   Online exercise
      ▣ Lesson 3

19   **Revision Week**

20   **Final Examination**

Figure 2: Course Presentation by Week

Topic outline

TCC 101: COMPUTING I

ANNOUNCEMENT
- Welcoming letter from Course Coordinator
- Understand how you learn
- Seven Success Strategies for Distance Learners

ONLINE FORUM
- General Student's Forum   30 unread posts
- Public forum and Announcement
  - Tutorial 1   15 unread posts
  - Tutorial 2
  - Tutorial 3
  - Tutorial 4
  - Tutorial 5

  Tutor Support Material
- Tutors Discussion Board
- Useful Reading I
- Useful Reading II

COURSE OVERVIEW
- Course Description
- Objectives
- Synopsis
- Syllabus
- Course Coordinator Profile and Contact
- Course Assessment Summary
- References and Textbook
- Suggested Weekly/Study Schedule for Learners
- Online Support
- Required software/application
- Course Guide (TMAs and Specimen Exam Paper)
- Important Notice on Internet References/Links

1 COURSE MATERIALS AND RESOURCES

- Resource from the Malik Textbook

Material for Tutorial
- Slides for Tutorial 1

Unit 2: Supplementary Material
- Object and Classes
- Concept Example for Object-oriented programming
- Object-oriented programming demo
- Object-oriented programming from Debreuil Digital Works 2001
- Try CMA 2

Unit 3: Supplementary Material
- Common Programming Errors
- Basic Element of Java
- Control Structure Part I

Unit 4: Supplementary Material
- Control Structure Part II

Unit 5: Supplementary Material
- Array

Program Codes in Course Material
- Unit 1
- Unit 3
- Unit 4
- Unit 5

Figure 3: Course Presentation by Resources

Why do the courses differ in their form of presentation?

The question is best answered by the interpretation of the courses by the Course Coordinators with the course materials made available to them just about two months before the presentation. Also while preparing the contents for the Course Guide and Tutor Guide, the Course Coordinators would have prepared specific course presentation strategies and pacing of the presentation. Also as most courses at WOU are accompanied with a textbook, the Course Coordinators will inevitably be influenced by the book presentation and also if the book's publishers have ready-made and available course contents that are in the web-based formats. Courses that do not have e-contents right at the beginning will thus will be treated more conventionally, based on the five study units that make up the course. For the computer-based course, there is extant software and libraries that are available to illustrate specific concepts. Hence the three formats are more a result of the thinking and tinkering by the Course Coordinators and the influence of available materials by book publishers or elsewhere.

The pedagogy behind the web-presentation

We are all too aware of the need for instructional design of printed materials especially those meant for self-instructional efforts. The development of traditional distance material in print demands careful planning and design, and implementation. This, however, is not too well taken up by the stand-up-and-talk teacher or lecturer who in most cases are more secure with the direct mode of instruction where a 'body' of information is elaborated upon based on the familiarity of the 'giver' with the contents and very rarely with due reference to the needs of the learner. Although face-to-face instructors have often used many of the same practices like starting with an introduction and then elaborating on the objectives of the lesson taught orally, they are often unaware of the concept and processes of design. E-learning, however, requires greater attention to design than the face-to-face teacher does. E-learning design relates to both the design of individual technical solutions or tools, and the design of the learning experience derived.

Chickering and Ehrmann (1996) had proposed seven principles of pedagogy and technology selection with a reminder that if the power of new technologies is to be fully realized, they should be employed with these Seven Principles:

1. Good Practice Encourages Contacts Between Students and Faculty

In an ODL environment, there is little contact between the student and the Course Coordinator, who by the nature of the setup more or less 'outsourced' the contacting aspect to the tutor. Apart from the site visits, where does the Course Coordinator come in? With LMS, this principle can be leveraged through the asynchronous e-forum and email available. Between the two, e-forum is a better mechanism as more students can be in the loop and also to view their peers' reflections and responses. *WawasanLearn* does have that facility, and in fact the Course Coordinators are doing a lot more interaction than some of the tutors! Knowing the much vaunted 'fear' of asking the lecturer syndrome, this non-face-to-face mode of participation has more value than the traditional and time-consuming instructor-student mode. Also e-forums allow for a flexible approach to query and answer between student and lecturer.

2. Good Practice Develops Reciprocity and Cooperation among Students

Good learning is always engendered with good collaboration. With much informality, e-forums and chats are ideal locations to exchange and test ideas. With the moderation of the Course Coordinator and tutor, quality threads can be seen and they do run over many pages of discussion. However we need to be mindful of disaffected students who may turn an innocent remark into something worst, and in most instances we can be caught unaware. This happened on one occasion in *WawasanLearn*, where a discussion on the results of a TMA becomes a vent of anger by a student over his / her dismal grades attained that subsequently becomes a twenty page well-written English essay on why he / she deserves better. It only came to an end, surprising not through the Course Coordinator's intervention, by a few succinct remarks by fellow students that the purported 'answer' by the said student's answers for that TMA were tangential and not to the point.

3. Good Practice Uses Active Learning Techniques

Using LMS as a mere transmission device of static word/notes is a definite waste of its potential. Including quizzes and games will make interaction with the LMS so much more attractive. 'Instant feedback on demand' this will make learning meaningful and attractive. For a start quizzes can be more elaborate than checking 'yes', 'no'. In fact Moodle allows a type of response equivalent to a MCQ type of questionnaire and with immediate feedback when 'checked'. Locally created Flash tools can be of assistance in 'matching' items to words etc. Students like to pull objects across the screen and matching them or see the un-matched item bouncing back ti where it comes from. This would require some active and creative intervention on the part of the Course Coordinator and course designer.

Initial experience had shown that many students would not participate in quizzes as 'they do not offer marks for the effort committed". This is the reality of Malaysian students –always hoping for some rewards for effort exerted!

4.   Good Practice Gives Prompt Feedback

Just like the above on active learning, it is rather difficult to maintain a pool of practice tests on the web. However using the other tool like chat forums, WOU has done a lot to inculcate a sense of urgency in getting the tutor and the Course Coordinator to respond to views that are posted on the site. Thus in a number of instances we do see Course Coordinators putting in more than their share of effort to maintain an active interest in the forum proceedings. This has in fact prompted the Administration to caution the Course Coordinator about spending too much time on the forums, and that they are to advise the tutors to partake more in the discussion.

5. Good Practice Emphasizes Quality Time on Task

Again with *WawasanLearn* it is assumed that we can provide quality time to the student despite the fact that *WawasanLearn* is not the main conduit of learning experiences. In fact student will always see the face-to-face learning experiences as the most important event in an ODL like WOU! However as we proceed to more e-learning environment, WOU may need to re-think its presentation strategies.

6. Good Practice Communicates High Expectations

We are aware that having open entry requirements means that students would be coming from various educational background. Nevertheless, *WawasanLearn* focuses on communicating high expectations for all of our students. This is done through a good relationship formed in the use of new technology and collaborative e-forums that encourages students to attain better achievements in their studies. For example, students without any prior computer knowledge may feel that it is a major challenge to use *WawasanLearn* as part of their learning support tools. With proper guidance from the tutors, students may have fewer things to worry about in regards to using the available technology. The course coordinators on their part would need to balance out their content so that it would be comfortably used for the students with "zero" background and acceptable for those who had more knowledge using the technologies. Once the students had overcome this challenge then, they would be able to acquire new information and also hone their cognitive skills in analysis, synthesis, application and evaluation.

7. Good Practice Respects Diverse Talents and Modalities of Learning

WawasanLearn attempts to provide as many approaches feasible within its framework to provide alternatives to the learning experience. For example, we would like to include an audio track to enhance the learning experience. This we would embark in the second semester. With different file types like Adobe and PowerPoint, and linkages we intend to provide a more varied experience, but with one proviso, that is that students should have only one common presentation format in the first page of the *WawasanLearn*. We believe that having a common inter-face would not mislead students to react differently to different courses.

8

How we see *WawasanLearn* as an evolving LMS interface

Different software tools used in e-learning have different social, organisational and pedagogical characteristics that influence the quality in matching the needs of a practitioner or learner in an educational context. One key skill in the effective and innovative use of e-learning technologies is the ability to critically evaluate software tools for their intended use. There are a number of software tools along with the issue of design which can constrain or enhance different forms of teaching and learning practice. Issues to be attended to are discussed here.

1. Resources in *WawasanLearn* (by course)

As of now the courses vary in the types and presentation style of resources. The most commonly used formats are in 'Word' and PowerPoint formats. In addition there are images in jpeg formats. Over time as the number of resources and courses increase, and students as well as Course Coordinators access and download such resources, the issue of ownership becomes critical.

For example a set of 35-slide PowerPoint presentation in a technical course can be easily downloaded, amended and re-constituted as if it is the new user's own intellectual property (IP) materials. The same can be true for Word files and images. Thus a guide on presentation formats should be developed to avoid unnecessary duplication and misuse of IP materials hosted at the *WawasanLearn*.

For a start all 'lose pieces' of resources in the aforesaid formats be converted and locked into pdf files for download and view by the user. The user can view and print the materials if deemed fit, but cannot modify or override the displayed contents. This is especially important for visual materials in PowerPoint. If the 'original' PowerPoint materials involved animation, it is incumbent on the Course Coordinators inserting the PowerPoint to 'expand' the number of slides to accommodate the 'results' of that animation. Then by porting this PowerPoint into an Adobe slide display, the integrity of the original materials would not be compromised.

2. Forums

How many forums should be held in a course and over what time frame? The present set of courses illustrated a glaring display of disparate use of forums from four in a course to over fourteen in another. Some use the Unit as a forum (and so will have only five forums); some use very specific areas within the units, e.g., 'acceptable moral behavior', 'occupational hazards' etc. As long as the tutors are diligent and monitor the forums, the administrators assume that all is well. But, the workload of the tutor will vary from course to course. Also the Educational Technology Unit will have difficulty providing meaningful statistics on the forums threads due to different intensity of forum and narrowness of topics discussed thereby leading to non-comparable judgments for each course.

3. The evolving interface

To solve this, each course will have no more than five forums per course. The forums should coincide in time frame to two weeks of discussions 'immediately after a tutorial'. If possible the Course Coordinators should cluster the forum topics into 'themes' that may cut across the units and also allow for discussions of 'small topics' within a bigger theme. A 2-week open forum will allow for some depth as well as some control by the tutor over the contents, and not be a free flow

with irregular traffic. Thus students will also know that the forum is not there all the time and they need to be active in their participation.

Presently there is reasonable traffic on the Forums for all courses. Although student postings are not as high, a number of forum postings are usually on specific concerns and clarification seeking. Some tutors have responded to these posting, while in some course the Course Coordinator have responded thereby subverting the tutor's role. It may be good to all students that the Course Coordinator is listening. But how far can this go on as the weeks progress and the number of hits rise. This becomes serious when the Course Coordinator has to moderate (not monitor) the forums. Perhaps a 'not so instant' response, and at arm's length would be better for the Course Coordinator. Let the tutor handle the issues first, and only come in after many similar issues are not resolved. Meantime the Course Coordinator should advise the tutor through the normal channel or the e-mail etc. on probable responses. It is important that the Course Coordinator be aware that he / she is going to handle multiple courses as the semesters progress, and there will not be spare capacity to do things that the tutors are supposed to do. With more tutors fitting into the groove, it will be easier to spread the responsibilities of Course Coordinator to more concurrent courses and continuing to be involved in course development, re-development and supervising course writers.

Conclusion

We see *WawasanLearn* as useful platform for a number of activities and presentations and that the eventual evolution of WawasanLearn will be determined jointly by the Course Coordinators and the instructional designers. The attempt to present a common interface with minimal page scrolling is seen to be a way to have a common identity for WOU in the e-space. We do hope that as more courses are presented, there will be a more consistent feel about *WawasanLearn* and that in the long run, we will have an easily used web presence as well as giving the students a common mode of interacting with the contents. We will be looking at adding resources in various formats and also to ensure that these additional resources would not overload the system as more course come on stream. To us as instructional designers, quality of interactions will be most critical in the evolution of *WawasanLearn*.

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