HARNESSING LEARNERS' INSIGHT OF ONLINE COURSES AND LEARNING MANAGEMENT SYSTEM

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ABSTRACT

The frequency of online courses using web-based learning has continued to increase in terms of demand and access. However the effectiveness of online courses particularly in relation to individual learners' needs, perceptions, performance and outcomes are sometimes being questioned. To support for a successful learning system, this study will harness learners' insight of online courses and learners' use of learning management system (LMS). Much of this study is based on learner insights of the quality and quantity of their interactions and learning experiences using LMS and social presence in online courses. Only by understanding learners' insights can we develop strategies or guidelines for creating a more inclusive and effective LMS and online courses. This study was conducted on 224 respondents from the Faculty of Information Technology and Multimedia Communication, Open University Malaysia. This study allows for learners' feedback and an opportunity for the institution to improve the learning system and nurture e-learning.

INTRODUCTION

Open University Malaysia (OUM) is an open and distance learning (ODL) private university established by a consortium of eleven Malaysia public universities in August 2000. It prides itself with its motto of a "University for All" as it believes in the philosophy of education for all. The university provides opportunities for learners from all walks of life to pursue higher education and new knowledge.

OUM adopts a blended approach to support the learning achievement of its almost 40,000 learners. This approach is made up of the following: self-managed learning; face-to-face interactions in classroom settings and online forum discussions using its customized learning management system (LMS). To support self-managed learning, specially constructed print modules, CDROM courseware and web courseware are designed and provided to learners. For the face-to-face interactions, five tutorial sessions are conducted fortnightly during the weekends fortnightly throughout the semester whereby further learning support is provided by a tutor. In the online forum discussions, learners 'meet' their tutors and peers virtually using OUM's LMS. The online discussions in LMS are crucial for building up a connected learning community as OUM learners being in the ODL mode are separated by time, distance and personal experiences. A 5% assessment mark is given to learners for online participation.

Although OUM had experienced high growth rates in the last 5 years of its inception, there is limited information on reactions and responses of the learners on the system and courses provided by OUM. As learners in the open and distance learning, what are the factors considered important by the learners in this mode of learning? What are their perceptions? What are their ways of learning? As such, it is the purpose of this paper to provide valuable insights into interaction and learning experience using LMS and their social presence in online courses. Specifically, this research explores on the following areas:

- Learner's demographic and computer background profile
- Actual usage of LMS by accessibility, message posting and importance of the tools
- Learner's insight of quality and quantity of interaction and learning experience using LMS and sense of presence in Online courses

This study is important to increase the quality of instructions, level of learner's motivation and satisfaction with outcomes. Considering the potential high growth rates of distance education in

the near future, it is imperative to asses the learners' insight of the services provided in OUM as it can provide ideas on how to improve the existing service quality.

LITERATURE REVIEW

Online Courses and Learning Management System

Not everyone thinks positively about the online learning some argue of online courses are being forced upon students and professors by administrators of colleges and universities because of cost-saving measures, while students are not particularly happy about the online course initiatives at some universities (Jaffee, 1998; Noble, 1998). Others are voicing concerns about online courses being the answer to challenges such as increasing educational costs and a changing student body (Feenberg, 1999; Hara & Kling, 2000; Rahm & Red, 1998).

On the part of learners, some may experience feelings of isolation in distance courses compared to prior face-to-face educational experiences (Shaw & Polovina, 1999) because of limited contact with instructors and fellow students. The result of this isolation can be manifested by unfinished courses or high attrition rates. However with today's educational technology and learning management system more opportunities can be created for communication and collaboration even if learners' are separated by time and space. The tools used in the system include e-mail, chat rooms, online discussion, bulletin boards and digital drop box.

These tools allow for collaborative work and immediate feedback. Learners are able to share viewpoints and discuss them with their cohorts in a virtual environment, thereby gaining insights and perspectives which otherwise would not have been exposed to. This type of environment allows for social interaction and creates meaningful, active learning experiences (Bonk, 1998). However online learners must be familiar with the technology used in the course in order to be successful (Belanger & Jordan, 2000).

Social Presence

Social presence is a significant factor in improving instructional effectiveness. Therefore, it is one of the most significance factors in distance education. In an online course, presence refers to a learner's sense of being in and belonging in a course and the ability to interact with other learners and instructors although physical contact is not available (Anthony 2002). The term "community" is related to presence and refers to a group of individuals who belong to a social unit such as students in a class. In an online course, terms such as communities of inquiry, communities of learners, and knowledge-building communities have evolved (Mehrabian, 1969). Presence has a social psychology basis related to how individuals respond and interact using different forms of media (Short, Williams, Christie. 1976). Ultimately, harnessing the learner's insights on how well they have learned using the tools and how much they can fit in with this new way of learning may be good as other research study because these insights may help to reduce attrition rates and motivate learning.

METHODOLOGY

Learners' from Faculty of Information Technology and Multimedia Communication, OUM were selected as respondents in this study. The instrument was administered during the fourth or fifth tutoring session, when the LMS has been experienced and learners had adapted to online courses. This was to ensure that learners' were more competent in LMS and online courses first before being evaluated. Participation was voluntary and learners would not be penalized for non-participation.

Learners' from 15 classes, all in their third and fifth semesters of their study were selected at random. About 350 questionnaires were distributed and 269 learners responded to the survey. There were 45 responses that were incomplete and therefore eliminated from the dataset, leaving 224 valid respondents.

Table 1 *Participants' response rate*

	Respondents	Responses Received	Responses Discarded	Total Usable Responses
Number	350	269	45	224
Percentage	100	76%	12%	64%

Learners' were needed to complete a satisfaction instrument in this study, which asked a series of questions addressing their overall experiences, especially as related to their learning and interaction with others and the technology used. Part of the questions, were related to social presence on the online courses. These questions were based on the inventory of presence questionnaire developed by the Presence Research Working Group (http://www.presence-research.org) at the Technische Universiteit Eindhoven, Netherlands and on a questionnaire developed by Chih-Hsiung Tu (Tu, 2001).

DISCUSSION OF RESULTS

Descriptive Statistic on Demographic Profile and Computer Background Data
The demographic profile as defined in this study includes non-computing variables, such as *sex*, and *age*. Computer Backgrounds data included in this study were computer accessibility location and computer expertise level.

The sample comprised of 224 undergraduate learners. A total of 120 male (53.6%) and 104 female (46.4%) participated in this research study. The age ranged from 20 to 30 (53.6%) were consolidated base on number of respondents from 2 categories (20-25 (29.5%), 26-30 (24.1%)), 31 to 40 (37.5%) age ranged were consolidated based on 2 categories (31 to 35 (23.2%), 36 to 40 (14.3%)) and 8.9% are more than 40 years old ranges. The findings indicate that there are more learners that are between the ages of 20 to 30 (53.5%) than any other age groups.

In terms of computer accessibility, the findings showed that majority accessed were from Home (41.1%), Office (51.3%) and others (7.6%) including libraries and cybercafés. In terms of computer expertise level 49.6% were found to be moderate, 28.1% were found to be good and 22.3% were excellent. The results were quite surprising as learners' who were studying Information Technology program at least have good background of computer expertise. Learners' were expected to be skillful in using computer program such as sending email, online forum and browsing the internet for information. By moderate expertise level learners were only expected to be fluent in word processing, slide presentation and spreadsheet application.

Table 2 *Demographic and Computer Background Data (N=224)*

Demographic/Computer	Frequency	Percentage
Sex		
Female	104	46.4
Male	120	53.6
Age		
20 to 30	120	53.6
31 to 40	84	37.5
> 40	20	8.9
Computer Accessibility		
House	92	41.1
Office	115	51.3
Other	17	7.6
Computer Expertise Level		
Moderate	111	49.6
Good	63	28.1
Excellent	50	22.3

Actual Usage of Learning Management System

Actual system use can be defined as a behavioral response, measured by the individual's action in reality (Davis, 1989). Three LMS usage variables were measured in the study. The variables are :(a) accessibility frequency in a week, (b) message posting frequency in a week and (c) choices of LMS tools used.

Learners were asked on average how often they accessed the LMS each week. Findings show that majority of learners' accessed LMS at least three times a week (40.6%) followed by twice a week (24.1%) and once a week (19.6%). Accessibility to the system is the most important factor which contributes to numbers of message posting. If by average the percentage of accessibility to the system is only 40% by 3 times a week certainly there will be less communication and idea to be shared among other learners

In terms of message posting in a week, results show that the frequency varies from one posting a week (34.8%), two postings a week (31.3%) and three posting a week (29.9%). Only 9% posted four times in a week. Learners are not required to make a particular number of postings to the discussion board each week. However, learners were informed that 5% of the course marks would be based on their participation in these discussions. Learners' posting is an indicator for actual participation in the course, since it showed the number of times learners read and responded in writing to online discussion.

Table 3 LMS Accessibility and Posting in a week

Actual Usage of LMS	Frequency	Percentage
LMS Accessibility in a week		
One time	44	19.6
Two times	54	24.1
Three times	91	40.6
Four times	35	15.6
TOTAL	224	100
LMS Postings in a week		
One time	78	34.8
Two times	70	31.3
Three times	67	29.9
Four times	9	4.0
TOTAL	224	100

Learners' were asked which tools were very important in the LMS. Responses were formatted in a Likert scale with values ranging from 1-5 where 1 represented "not important", 2 "slightly important", 3 "important", 4 "very important" and 5 "critical". The responses to these questions are scored and combined into an overall rating of tool usage ranging from 1 to 5.

Online discussion was stated as important with the highest mean of 3.38. The mode for online discussion was stated as very important since majority of the learners' chose online discussion as their preferable tool in the learning management system. The result was not as high as expected since in the e-learning mode, learners were expected to fully maximize the tools given for information sharing platform.

Table 4 Choices of LMS tools

Choices of LMS tools	Online Discussion (%)	Chat (%)	Digital Drop box (%)
Not important	2.2	62.1	22.8
Slightly Importance	14.3	13.8	24.1
Importance	32.6	21.4	35.7
Very Importance	45.5	2.7	16.5
Critical	5.4		0.9

TOTAL	100.0	100.0	100.0
Mean	3.38	1.65	2.49
Mode	4	1	3

Learner's insight of interaction and learning experience using LMS

To harness learner's insight of interaction and learning experience using LMS, a series of 6 questions were asked which include 4 questions addressing quality and quantity of interaction with learners and tutors and 2 questions addressing quality and quantity of learning experience using LMS Responses were formatted in a Likert scale with values ranging from 1 representing "decreased", 2 "somewhat decreased", 3 "no change", 4 "somewhat increased" and 5 "increased".

The responses to these questions were analyzed. The results in table 5 show that respondents did not find the quality of interaction with other learners using LMS as important (mean = 3.88) as compared with the quantity of the learning experience using LMS (mean=4.04). However the difference in the mean is not very wide. This analysis gives an indication of the learners' perception of their interaction and learning experiences using LMS in OUM. Overall, the learners showed positive attitude of this new way of interaction and learning experience even though it was different compared with traditional classroom. Some studies reveal deep doubts whether online learning can really offer enough interaction. For example, a study by Smith (1996, May) found that about 30% of the nearly 400 respondents to a survey would never choose online learning because they felt that it could never provide the qualities they desire in a face-to-face course. However, studies such as one by Miller and Webster (1997, December) have found no significant difference in assessments of interaction between students in a synchronous (face-to-face) and asynchronous courses. Horn (1994) and Hirumi and Bermudez (1996) are among those who find that, with proper instructional design, online courses actually can be more interactive than traditional ones, providing more personal and timely feedback to meet students' needs than is possible in large, face-to-face courses.

__Table 5__ Learner's insight of interaction and learning experience using LMS

Interaction and learning experience using LMS	Mean
The amount of interaction with other learners	4.01
The quality of Interaction with other learners	3.88
The amount of interaction with the tutor	4.02
The quality of Interaction with the tutor	4.00
The quantity of your learning experience	4.04
The quality of your learning experience	4.00

Learner's insight of social presence in online courses

To collect data on learner's insight of social presence in the online courses, a series of 10 questions related to presence were included in the instrument. Responses were formatted in a Likert scale with values ranging from 1-7 where 1 represented "totally disagree", 2 "slightly disagree", 3 "disagree ", 4 "no comment" , 5 "slightly agree", 6 "agree" and 7 "totally agree ".The responses to these questions were analyzed ranging from 1 to 7

The results in table 6 below show that the respondents did not want to make their stand on the statement that online course provides a reliable means of communication (mean = 4.38).The mode for this item also indicated disagreement for the statement. Studies by Sproull and Kiesler (1997) caution about discussions that continue based on misinformation because in asynchronous mode an instructor cannot immediately correct or clarify a comment. As a result, learners' need to have the experience and knowledge base to sift the discussion for misinformation. Chong (1998) and Hara & Kling (2000) also reveal that learners who experience frustrations with technology in the course experience lower satisfaction levels.

Result in table 6 below show slight agreement on question no.5 online course allows me to express my feelings and learn the feelings of others with the highest mean of 5.49 but majority of the learners' chose to agree as their preferable answer. Studies by Coombs (2000) noted that

online courses are actually beneficial for all students. According to Coombs, the web allows learners to think more about what is being discussed and allows more time for a student to compose thoughts. For question No 1, 3, 8 result shows that learners did not want to make their stand on the statement (mean > 4.5) but majority of the learners show the opposite standing which stated their agreement on each of the statement asked

Social presence in the online courses encourages an appreciation for the points of view of others. Learners were expected to learn something from other learners and relate to their personal experiences. Those who felt the "presence" in this online course could relate better to an activity such as written assignment, group project and definitely their final examination. This active way of learning which insisted on receiving, participating and doing will be one of the key factors towards the success of the course.

Table 6 Learner's insight of social presence in online courses

Q.No	Social presence in Online Courses	Mean	Mode
1	I enjoyed the online course	4.96	6
2	Online course stimulated my desire to learn	5.02	6
3	Online course provides a personal experience similar to the classroom	4.61	6
4	Online course allows for social interaction	5.00	6
5	Online course allows me to express my feelings and learn the feelings of others	5.49	6
6	Online course provides a reliable means of communication	4.38	3
7	Online course is an efficient mean of communicating with others	5.01	5
8	I did not find the online course threatening to me	4.66	6
9	I felt I got to learn a great deal about the tutor in the online course	5.04	6
10	I felt I got to learn a great deal about the other learners in the online course	5.18	6

Data Reliability
Internal consistency of the responses were tested using Cronbach's alpha for each construct, which for the purpose of this study to harness the insights of online courses and LMS. Learner's insights of social presence in online courses were found to have an alpha of 0.922 from all 10 items regarded factors. Learner's insight of interaction and learning experience using LMS were found to have an alpha of 0.896 for all 6 items measured. These findings suggest that there are no major concerns of reliability in this study.

CONCLUSION

Positive indication of the findings on the quality and quantity of interaction and learning experience using the LMS is one of the contributing factors in predicting factor of learners' success. However the findings do not indicate that learners' can be sustained throughout their learning period. Further study could be conducted in order to get feedback on how to commit and motivate learners' in maximizing the use of LMS. By understanding their needs, educators can build better support mechanism for their learners (Tammy 2004). Social presence which include of social context, interactivity and online communication is only a first step in understanding and measuring the level of social presence in online courses. Positive insights of social presence in online courses indicate that learners can learn and share knowledge via online learning. These insights can help the faculty to find the ways and means to increase learners' satisfaction and motivation to learn, hence reducing the attrition rate. Ultimately however, further studies on learners' performance outcomes need to be done to determine the overall success of online learning.

The findings in this initial study show that there are many opportunities for further research. Future research could utilize various approaches to address similar issues by utilizing qualitative research methodologies such as in-depth interviews, focus group discussions or a mix mode of qualitative and quantitative research methods. This study can also be revisited using a larger sample and covering a wider group of online learners at OUM.

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