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### THE IMPACT OF “LEARNING SKILLS FOR OPEN AND DISTANCE LEARNERS” COURSE ON LEARNER ATTITUDES TOWARDS E-LEARNING

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#### ABSTRACT

This study compares the attitudes towards e-learning between a group of undergraduate in-service teachers in Open University Malaysia (OUM) who have undertaken the “Learning Skills for Open and Distance Learners” Course and those who have not. Awareness of learner attitudes toward e-learning is a critical factor in enhancing the acceptance of e-learning, as well as in understanding current learner behavior in an online environment. The survey questionnaire consists of a five-point Likert-type attitude scale comprising of 40 positive statements, factor-analyzed into five dimensions. Mann-Whitney U tests were used to identify significant differences in each item among two different groups of learners.

The scales were then converted to scores so that the overall score for each dimension is the sum of the scores of items in the dimension. The study then used t-tests to investigate the difference in the overall scores of each dimension between the two groups of learners.

The results of the study indicate that the “Learning Skills for Open and Distance Learners” Course at OUM does have a positive impact on the attitude of learners towards e-learning. However, general attitude is somewhat neutral. The implications of the results of this study are discussed, particularly in relation to the LSODL course and possible modifications/additional features that need to be built in so as to further improve e-learning use amongst learners.

#### INTRODUCTION

Open University Malaysia (OUM) is the first and the major provider of Open and Distance Learning (ODL) in Malaysia since its inception in 2001. Its vision is to democratise education, that is, to provide maximum access to as many Malaysians who have previously not had access to higher education as well as to those seeking to upgrade their skills and qualifications. All its programmes are delivered via a blended mode, utilising a mix of specially designed printed modules, videotapes, CD-ROMs, online learning and face-to-face tutorials in a distributed network of learning centres. As its annual enrolment grows, so does the challenges, and one of

these challenges is the provision of flexible learning to its learners. Flexibility to some learners means being able to study without having to come to the learning centers, that is, being able to study from anywhere, any time and at their own pace. To others, flexibility is having the opportunity to choose whether to interact with peers and tutors physically in class or online or both. Different learners have different styles of learning and e-learning is the solution for catering to the various learner styles. It is for these reasons that OUM has invested highly in its ICT infrastructure to provide the most appropriate and efficient e-learning platform, better known as myLMS, for its learners.

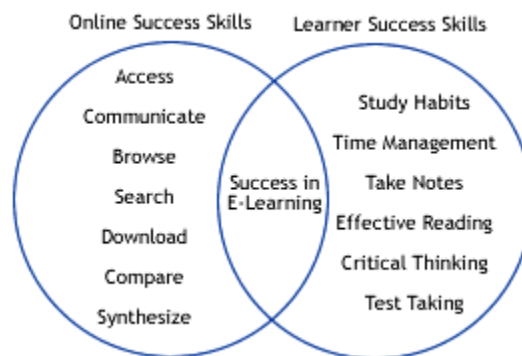
The skills for learning are not always innate, and in particular, the skills for learning with technology need to be recognized and made very explicit. Regardless of discipline, it is crucial for learners to be equipped with the relevant skills for e-learning. To ensure maximum benefit to be garnered from the use of e-learning in OUM, all first-time learners were required to register for a course entitled “Learning Skills for Open and Distance Learners” (LSODL). This course was first introduced in the January 2004 semester, which means that learners enrolled in the earlier semesters did not have the opportunity to take the course.

OUM has a long term plan to integrate ICT in all aspects of its programmes, administration, pedagogy and assessment, and in the process, moving towards enhanced flexibility for its learners. Presently, learners can enroll and get their course time-table online, access course materials and resources online, obtain tutorial support online, interact in a collaborative online learning environment with their peers and tutors and discuss course contents via the discussion forums, and so forth.

For e-learning to be successfully and effectively used, there need to be an understanding of learners’ attitudes and perceptions of e-learning. These are the two factors which influence their motivation or achievement in their learning. This study specifically looks at the impact of the LSODL course on learners’ attitude towards e-learning, which is part of a whole study on learners Attitude, Perception and Use of E-Learning in Open University Malaysia (Latifah *et al*, 2006).

### E-LEARNING SKILLS

Success in e-learning requires two essential skills. First, learners need to have the basic or traditional learner success skills. Second, they have to develop and apply new online learning success skills and habits. New technologies have dramatically changed the way a learner interacts with their tutors, peers, and course materials, thus requiring the development of some new study skills. To be effective in e-learning, a learner needs to combine the conventional learner success skills with online success skills (see Figure 1).



**Figure 1: Success in E-Learning**  
(Based on the *E-learning Companion*, Watkins & Corry, 2004)

## **LEARNING MANAGEMENT SYSTEM (LMS)**

OUM's Learning Management System (LMS) is a comprehensive and flexible e-learning system that enables lecturers and learners to teach, learn and interact in a virtual classroom environment and at the same time to enable institution to track and monitor learning and teaching development among lecturers and learners. The LMS features include a Course Management system in which lecturers can add or drop individuals or groups of learners to or from courses using the provided course management tool. It also contains Teaching and Learning Tools which incorporates a Lesson Plan Builder, an Announcement Section, a Content Management system, a section on Assignments. LMS also has a section on Collaborative tools which contains a Discussion Board, Chat Room and Group Project. Other features of LMS include a Tracking and Monitoring System, a set of Communication Tools comprising of e-mails, Short Messaging System (SMS), a Communication Module and an Online Community corner. Finally, LMS has a collection of System Support and Administration Tools.

### ***“LEARNING SKILLS FOR OPEN AND DISTANCE LEARNERS” COURSE***

This is a compulsory 3-credit hour course for all first semester OUM learners, to be completed over a period of either 8 weeks in the short semester or 15 weeks in the long semester. The course has been designed to provide learners with a basic guide to becoming independent learners in an ODL environment via the most important and basic learning skills, that is, learning to learn, ICT and information retrieval skills. At the end of the course, learners would be able to:

- i. Understand OUM's learning environment and manage their learning (basic traditional learning skills);
- ii. Identify the main components of a personal computer and the Internet;
- iii. Utilize the tools available in OUM's Learning Management System (myLMS);
- iv. Present information in written and oral form and cope well with assessments;
- v. Gather, retrieve and evaluate information from various sources; and
- vi. Use the Microsoft Office Application software, that is, Microsoft Word, Microsoft Excel and Microsoft PowerPoint.

The course contains both a theory and the practical component, so as to give learners the real practice on how to use the available tools to help them navigate their learning process. OUM's expectations is that regardless of what learners bring with them at the point of entry, the introduction of this course should make them feel quite comfortable with the use of electronic media, leading to an acceptably high learner acceptance of Internet and e-learning.

### ***BACKGROUND OF OUM LEARNERS***

Learners in OUM have tremendous challenges as they try to manage their studies. They are generally older and have many other commitments such as families or full-time jobs. They need a flexible course schedule that will accommodate the varying and often conflicting demands on their time. It is this set of challenges that OUM have to understand and provide the necessary effective support to help learners stay on track. In a handbook for distance learners by Virginia Tech's Institute for Distance and Distributed Learning, for learners to succeed in their pursuit of higher education, they must have good time-management skills, good problem-solving abilities (e.g., be able to solve computer problems on their own), be self-motivated and independent learners, possess the initiative (e.g., they'll ask when they don't understand), and are able to understand expectations (<http://www.iddl.vt.edu/handbook/profiles.php>).

In a poll conducted in November 2005, via the Online Learner Bulletin, 81% of OUM learners indicated that Time Management is their major challenge, followed by Job Responsibilities (77%), Stress Management (69%) and Family Commitment (64%). This result is similar to the findings of a research by Dass (2001) on 534 distance learning learners at Universiti Sains Malaysia which lists two greatest challenges indicated by the majority of those surveyed were time management (75.5%) and study-related problems (74.9%). Generally, learners perceived that distance learning is convenient but later realised it to be time-consuming and more demanding than traditional courses (Tucker, 2003).

## E-LEARNING ATTITUDES

Educators have known that learner attitudes and responses are correlated. Burn's (1997) study supported this statement by saying that "attitudes are evaluated beliefs which predispose the individual to respond in a preferential way". Thus, educators will have to improve delivery to instill positive learner attitudes, knowing that it would improve learning outcomes. Massoud (1991) pointed out that this correlation also exists in ICT education, and the existence of computer anxiety is based on attitudes towards computers. Consequently, individuals' attitudes towards computers should be addressed so that anxieties can be kept to the minimum, allowing learning to be cultivated in a positive manner.

One critical factor that influences learner acceptance of e-learning is learner attitude. Though the LMS itself can generate statistics of learners' and also tutors' online learning activities, it does not provide sufficient in-depth information in order to improve the use of e-learning and its effectiveness. Thus, a basic empirical study to look into learners' perceptions, use and attitudes towards e-learning (Latifah, *et. al*, 2006) was carried out and part of it looks specifically at the impact of a LSODL course on the e-learning attitudes of the teacher-learners.

## METHODOLOGY

This survey collects student feedback on 45 statements on attitudes towards e-learning and around 30 questions on personal information, internet access, and internet or computer accessibility at learning centre or home and use of e-learning by learners. The statements on attitudes towards e-learning were on a 5-point scale with responses that range from "1 = strongly disagree" to "5 = strongly agree". These statements were then factor-analysed whereby a number of irrelevant statements were dropped and those which are relevant are grouped into five dimensions namely *online benefits* (12 statements), *instructional design* (10 statements), *online interaction* (9 statements), *online features* (5 statements) and *online feedback* (4 statements). *Online benefit* assesses learners' attitude towards e-learning over face-to-face tutorial, *instructional design* investigates learners' opinion on the instructional design components in Web-based learning, *online interaction* evaluates interaction between learners and tutors, *online features* assesses the look and feel of the LMS and *online feedback* measures the timeliness of online feedback obtained by learners.

The scales of each statement were then converted to scores and the overall score in each dimension is the sum of the scores of statements in that dimension. Since each dimension has different number of statements or items, the overall score is then divided by the number of statements in the dimension and for simplicity; we then refer this mean score as the composite mean of the dimension.

The analyses in this study are broken into two parts. Firstly, the difference between grand composite means of each dimension was investigated among learners who had taken LSODL with those who had not using a t-test. Secondly, the differences in giving responses to statements or items in the dimension among the two groups of learners were also investigated. Means instead of the median were used for evaluating student satisfaction in each item in the dimension,

as median did not give meaningful differences. On the other hand, Mann-Whitney U tests were used to investigate whether the differences observed were statistically significant.

## RESULTS AND DISCUSSIONS

### Profile of Respondents

Respondents are from six Bachelor of Education programmes and the distribution of respondents by programmes is a reflection of the actual population. They comprised of first, second, third, fourth and fifth year learners. The female-to-male ratio is 65:35 and 53% are between 26-35 years old while 42% are in the 36-45 age group. The highest number of respondents (49%) gained admission with a Diploma qualification, 29% with an SPM and 20% with STPM certificates. Among these teachers, 93% are married. A large majority of them are doing well in their studies: 55% had achieved a CGPA of 2.0-3.0 and 44% had achieved a CGPA of 3.0 – 4.0 (see Table 1).

**Table 1: Respondent's Profile**

Variable	N	Category	Percentage
Gender	979	Male	35.3
		Female	64.7
Age	987	19 - 25	2.2
		26 - 35	53.1
		36 - 45	42.3
		46 and above	2.1
Marital status	967	Single	5.7
		Married	92.5
		Single Parent	1.9
Program	838	BEMATH	33.1
		BESC	21.6
		BETESL	31.9
		BEME	5.3
		BECE	6.8
		BEEE	1.4
CGPA	919	3.00-4.00	44.0
		2.00-2.99	55.1
		1.00-1.99	1.0
Entry Qualification	970	SPM	28.5
		STPM	20.1
		Diploma	49.1
		Others	2.4

### Internet and E-learning Use

The survey showed that 65% of OUM learners access Internet from their homes and a majority of them (63%) spend 1-3 hours a week accessing Internet. A large percentage (64%) use Internet at night, and more than three quarters of the respondents (78%) use the Dial-up connection. OUM's learning centres also provide computer labs with Internet access. 36% of learners indicated that these computer labs are accessible and 30% felt that the number of computers at learning centres is sufficient. A higher percentage of respondents (39%) have been using Internet for less than one-year, 26% between 1-2 years and 35% for more than 2 years (see Table 2).

**Table 2: Internet Use**

<b>Variable</b>	<b>Category</b>	<b>Percentage</b>
Place of access	Home	65.2
	Campus	1.3
	Home & Campus	20.4
	Office	10.2
	Others	2.8
Hours per week accessing Internet	1-3 hours	63.0
	4-6 hours	26.2
	7-9 hours	7.4
	> 10 hours	3.5
Time using Internet	Morning	8.1
	Afternoon	8.9
	Evening	19.1
	Night	64.0
Internet Connection	Dial-up	78.3
	Broadband	12.5
	Leased line	5.2
	Others	4.0

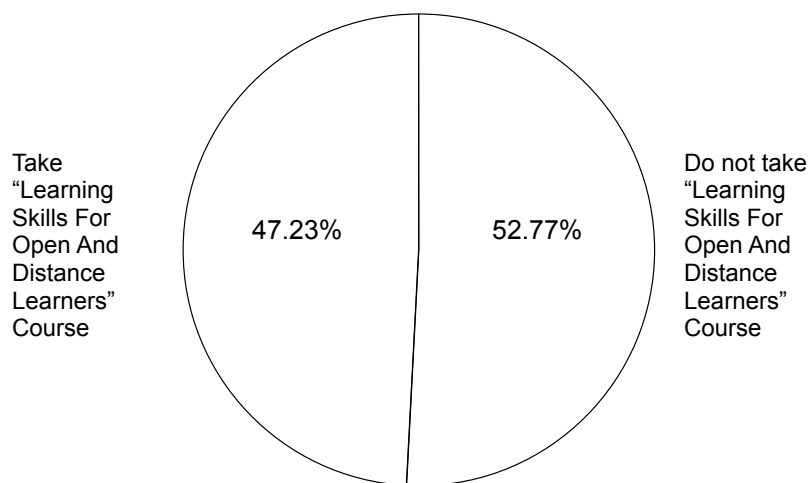
The majority of respondents (59%) spend 1-3 hours a week using e-learning, 30% spend 4-6 hours and 11% spend more than seven hours a week using e-learning. Among the most frequently used tools in e-learning is the discussion board (55%), followed by courseware (23%) and e-mail (12%) (see Table 3).

**Table 3: E-learning Use**

<b>Variable</b>	<b>Category</b>	<b>Percentage</b>
Duration of use	0-6 months	18.6
	7-12 months	20.4
	1-2 years	26.0
	> 2 years	35.1
Hours/week	1-3 hours	59.5
	4-6 hours	30.5
	7-9 hours	7.3
	> 10 hours	2.6
E-learning Tools	Courseware	22.6
	Discussion board	54.6
	Chat	1.7
	E-mail	11.5
	Others	9.6

## Learners with and without “Learning Skills for Open and Distance Learners” (LSODL) Course

A total of 994 learners responded to this survey, of which, slightly less than half of the learners had taken LSODL course and these learners were in their first to sixth semester (Figure 1).



**Figure 1: Distribution of Learners with and without “Learning Skills for Open and Distance Learners” (LSODL) Course**

Table 4 shows the composite means of learners’ attitudes who had taken LSODL course versus those who had not. The results indicated that there were differences in composite means between the two groups of learners for all 5 dimensions. Learners with LSODL course had significantly more positive attitude towards online benefits, instructional design components in Web-based learning, online interaction, online features and online feedback.

**Table 4: Dimension Composite Means of Learners Who Have Taken LSODL and Those Who Have Not**

Dimension	Taken LSODL	Not taken LSODL	p-value of t-test
Online benefits	3.21	3.08	0.002
Instructional design	3.26	3.15	0.021
Online interaction	3.57	3.43	0.006
Online features	3.25	3.08	0.000
Online feedback	3.25	3.12	0.007

The difference in opinion between two groups of learners on each item was investigated for all 5 dimensions. Table 5 summarizes the means of items in each dimension as reported by the two



groups of learners. On the *online benefits*, the differences in opinion were all statistically significant at 5 per cent level of significance except for statement, "Between online and face to face mode of learning, I prefer the online mode" and statement, "I must go online, otherwise I would lose 5% of course marks." Both groups of learners exhibited a similar pattern of attitude for both items; relatively less positive for the former and relatively more positive for the latter. This appears to indicate that both groups are not very keen on e-learning except where a definitive reward is provided for it (5% mark).

For other statements, learners who had undertaken LSODL had more positive attitudes towards online benefits as compared to those who had not taken this module. A closer examination of the mean scores of the items in this dimension reveals that both group of learners score relatively low in item "E-learning is more convenient than attending tutorials", "Learn great deal more via e-learning compared to conventional tutorial", and "Between online and face to face mode of learning, I prefer the online mode." These appear to indicate that learners, regardless whether they had taken LSODL or not, are not very positive about e-learning compared to conventional face-to-face learning.

There were no differences in opinion between the two groups of learners on five out of 10 statements given in *instructional design*. These statements were "graphics were helpful to my learning materials", "audio and video was helpful was helpful to my learning materials", "Graphics, video and audio used in the module are relevant to the content", "The content was organized in an appropriate sequence", and "The content covered all essential information (both theory & practical)". This implies that although in general, there is a difference in the attitude towards instructional design between the two groups, the difference can only be observed on half of the items. The mean scores of items in this dimension range from 3.15 to 3.46, and it appears to indicate that learners generally do not appreciate the added online instructional design features to enhance their learning.

The one statement in which there was no statistically significant difference between the two groups of learners in *online interaction* was "Online group provided opportunity to ask questions of the course at any time". Student attitude towards online interaction is more positive among those who had taken LSODL. The mean scores of items in this dimension which range from 3.00 to 3.45 indicate that learners from both groups are generally positive towards online group discussion.

Learners' opinions towards *online features* differ among the two groups for all items in this dimension. Those who had taken LSODL are more receptive and appreciative of the look and feel of LMS, the e-learning platform.

Lastly, there were differences in learners' opinions in two out of four statements in the *online feedback*. These statements were "Tutor support with respect to e-learning is very good" and "I received prompt feedback from my tutor about my assignments". Except for the item "When I post the question on the forum, I get the reply within 2 days" which has a neutral mean score (2.93 and 2.99), other items have relatively higher mean scores ranging from 3.18 to 3.35 indicating that learners are generally happy with feedback from their Tutors.

In summary, the LSODL course does have a positive impact on learners' attitude towards e-learning in all five dimensions. However, a closer examination of the individual items in each dimension reveals that, in general, OUM learners are not very keen on e-learning except where a definitive reward is provided (5% mark for Online Participation). The study also finds that learners have a higher preference for the conventional face-to-face learning than e-learning. This finding is supported by the results of a poll conducted via OUM's Online Learner Bulletin which indicates that 56% of learners enjoy the face-to-face tutorials and only 25% likes online discussions. This could be due to the greater amount of time required to be an effective online learner compared to the face-to-face learner (Tucker, 2003). Since time is of the essence for these learners, they tend to choose the easier way out and prefer to rely on the face-to-face interaction with the tutors to



obtain direct learning outcomes. The third finding of the study is that learners generally do not appreciate the added online instructional design features to enhance their learning. The fourth finding is that learners from both groups are generally positive towards online group discussion. Finally, the study appears to indicate that OUM learners are generally happy with the feedback from their tutors. Again this finding is supported by the online poll mentioned above where 82% of learners indicated that tutors mark their assignments on time and 68% are satisfied with the tutors' responses in myLMS discussions.

**Table 2: Item Means of Learners Who Had Taken LSODL versus Those Who Had Not**

		Taken LSODL	Not Taken LSODL	p-value
<b>1 ONLINE BENEFITS</b>				
1	E-learning is more convenient than attending tutorials	3.06	2.91	0.013
2	Communicate more using e-mail and forums with other learners than face to face	3.17	2.89	0.000
3	Communicate more using e-mail and forums with other tutors than face to face	3.19	2.98	0.001
4	More enjoyed and motivated to learn via online than tutorial	3.08	2.95	0.027
5	Learn great deal more via e-learning compared to conventional tutorial	3.07	2.89	0.001
6	E-learning is an effective supplement to the conventional tutorial	3.24	3.08	0.004
7	Between online and face to face mode of learning, I prefer the online mode	3.00	2.91	0.103
8	I would like to discuss topics with peers from different centers	3.29	3.12	0.004
9	Audio and video material can improve my learning	3.50	3.37	0.018
10	ICT can improve my learning	3.65	3.43	0.000
11	I would like to study using a computer even when it is more complicated	3.50	3.25	0.000
12	I must go online, otherwise I would lose 5% of course marks	3.71	3.61	0.091
<b>2 INSTRUCTIONAL DESIGN</b>				
1	Online material in the module was well organized and easy to find	3.28	3.10	0.001
2	Online text was easy to read and understand	3.34	3.21	0.044
3	Graphics were helpful to my learning materials	3.37	3.29	0.113
4	Audio and video was helpful to my learning materials	3.41	3.31	0.081
5	Online materials contain a lot of information about the topics covered	3.46	3.24	0.000
6	Online materials are both interesting and engaging	3.39	3.22	0.001
7	There are many examples and illustrations used in the online module	3.31	3.15	0.004
8	Graphics, video and audio used in the module are relevant to the content	3.22	3.15	0.335
9	The content was organized in an appropriate sequence	3.27	3.17	0.091
10	The content covered all essential information (both theory & practical)	3.23	3.16	0.186

		Taken LSODL	Not Taken LSODL	p-value
<b>1</b>	<b>ONLINE BENEFITS</b>			
<b>3</b>	<b>ONLINE INTERACTION</b>			
1	I interact a greater number of times with my tutor via online than in a face to face format	3.22	3.01	0.001
2	My online interaction is a higher quality than the face to face interaction	3.14	3.00	0.015
3	I'm highly satisfied with the interaction I have with my tutor about course via online	3.23	3.08	0.008
4	I found the online discussions with my tutors and peers useful & valuable	3.34	3.15	0.000
5	The interactions with my tutor affect my assignment grades	3.45	3.24	0.000
6	Tutor was very enthusiastic about student using forum for discussion	3.32	3.21	0.010
7	Engaging in debate and discussion with other learners helps me to learn more	3.41	3.30	0.029
8	Online group provided opportunity to ask questions of the course at any time	3.40	3.33	0.061
9	Discussion forum was an integral part of the course rather than optional	3.39	3.29	0.011
<b>4</b>	<b>ONLINE FEATURES</b>			
1	Speed of response of online learning is acceptable	3.21	3.01	0.000
2	I find navigating in the e-learning easy	3.24	3.06	0.000
3	There is good integration between text, voice and graphics	3.28	3.12	0.001
4	Layout of the screen is attractive	3.30	3.14	0.002
5	Help facility is useful	3.29	3.15	0.001
<b>5</b>	<b>ONLINE FEEDBACK</b>			
1	When I post the question on the forum, I get the reply within 2 days	2.99	2.93	0.275
2	Tutor marked and returned my assignments within 2 weeks	3.33	3.24	0.082
3	Tutor support with respect to e-learning is very good	3.37	3.18	0.000
4	I received prompt feedback from my tutor about my assignments	3.35	3.19	0.004

## CONCLUSION

The study indicates that the “Learning Skills for Open and Distance Learners” (LSOSL) Course does have an effect on the attitude of learners towards e-learning. Learners taking LSODL had significantly more positive attitude towards e-learning compared to those not taking the course. A closer examination of the results reveals that in general, OUM learners are not very appreciative of e-learning compared to conventional face-to-face learning. They also do not appear to appreciate the added online instructional design features to enhance their learning. However, they do indicate that they have a positive attitude towards online group discussion and are generally happy with the feedback from their online tutors. The rather mild attitude difference between the two groups of learners is probably attributable to the fact that in OUM, e-learning is *supplementary* to the face-to-face interaction. The teacher-learners appear to have shown a

higher preference for the face-to-face learning when e-learning comes with an option. A possible reason for this preference could be due to the time demands of e-learning.

There are many other factors that could influence learner attitude towards e-learning, examples include: connectivity, capability, content and also culture. IT infrastructure is the foundation for e-learning. Learners must have good access to computers, Internet or other mobile devices that provides connectivity to the Internet and to other learners. According to this study, the majority of respondents use the Dial-up connection, and this in itself may pose a challenge. As far as capability is concerned, E-learning will be embraced if the learners appreciate the fact that what they learn is what they will do at the workplace, and this should encourage them to be engaged in e-learning and life-long learning. The quality of online content also determines the extent of the usage of e-learning. In as far as the language that is used, which is basically English, some learners may be grappling with the language issue. The culture must also be there; learners must understand, value and appreciate e-learning.

## REFERENCES

- Burns, R. B. 1997. *Introduction to Research Methods* (3rd ed.). Longman, Melbourne.
- Dass, L. (2001). Exploring problems and coping mechanisms of distance learners: A Universiti Sains Malaysia Profile. *Malaysian Journal of Distance Education*, 3(1), pp. 1-21.
- Journal of Educational Computing Research, 7(3). 269-291.
- Latifah Abdol Latif, Ramli Bahroom, Mansor Fadzil and Noor Azina Ismail (2006), Attitude, Perception and Use of E-Learning at Open University Malaysia. Paper presented at SEAIR Conference, 2006, Langkawi.
- Mandernach, B. J., Donnelly, E. and Dailey-Hebert, A. (2006), Learner Attribute Research Juxtaposed with Online Instructor Experience: Predictors of Success in the Accelerated, Online Classroom, *The Journal of Educators Online*, Volume 3, Number 2, July.
- Massoud, S. L. (1991). *Computer attitudes and computer knowledge of adult students*. New York: Houghton Mifflin.
- The Institute for Distance and Distributed Learning, Virginia Tech. Profiles of distance learning students. <http://www.iddl.vt.edu/handbook/profiles.php>
- Tucker, S. Y. (2003). A portrait of distance learners in higher education. *Turkish Online Journal of Distance Educatio*, 4(3). <http://tojde.anadolu.edu.tr/tojde11/articles/tucker.htm>
- Watkins, R., & Corry, M. (2003). *E-learning companion: A student's guide to online success*.
- Watkins, R., 2005. *Preparing E-Learners for Online Success*. Learning Circuits, Article. Retrieved October 26, 2005, from <http://www.learningcircuits.org/2005/sep2005/watkins.htm>.