Learning Outcomes and Achievement among Working Adult Students in the Distance and Collaborative Learning Program in Universiti Malaya

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Abstract

Purpose – This research is attempt to examine the learning outcomes of the registered adult learners in the distance and e learning program in the Education Faculty, Social Science and Art Faculty and Language Faculty in Universiti Malaya, Kuala Lumpur, Malaysia, particularly at degree and post degree level who have followed the learning modules in distance and e learning. The objectives would be to develop an innovative and creative Learning Management System or e class couple with face to face lectures to create a highly effective and quality life long education environment. The e learning and teaching culture of the local public universities have great influence in determining the level of achievement and learning outcomes. Demographic factors, such as age, gender, race, marital status, and family background, academic achievement and salary range are other contributing factors that have to be taken into consideration.

Design/ methodology/ approach – Five dimensions of adult learners (demographic, learning culture, teaching and learning strategy, learning management system, and working experiences of adult learners) were examined to determine the performance and learning outcomes of the adult learners in the distance and e learning in the above mentioned faculties in Universiti Malaya

Finding - In general, there is a significant difference among factors stated above with adult learners' learning outcomes. The demographic factors are closely related to the learning culture. In addition, innovative learning management system provided and the learning environment are another two essential factors found to be the strong fundamental in the achievement and learning outcome of working adult learners in the distance and e learning program where a second chance is given to those underprivileged working adult learners who posses potentials and treasure life long learning joining the main stream of human capital to serve the nation's development needs

Research limitations/ implications – This study represents an addition to the extant literature on learning outcomes of adult learners in various faculties in university Malaya.

Practical implications – The learning outcomes of distance and e learning program in various faculties in Universiti Malaya are important since its inception, the university has produce high caliber, high achievers, quality technocrat, scholars and managers to serve and response to the great demands from both private and public sectors in Malaysia.

Originality– This study provides further groundwork to assist existing public or private institutions of higher learning in Malaysia to prepare themselves for investing in producing quality human capital.

Introduction

The introduction of off campus distance, collaborative and e learning with the usage of technology like computer, internet the www and LAN with WIFI throughout the country among adult off campus Universiti Malaya student couple with face to face weekend meeting and lectures in the campus has started since the late 1980. This methodology of teaching and learning has completed a full circle. Until today it has produced thousands of qualified graduates in many fields of studies. The modular study notes as well as reference in the university library provide great helps to the Universiti Malaya off campus working adult learners according to the subjects has create a conducive guided technology based distance and e learning process.

The uses of computer technology in enhancing teaching and learning process in dissemination of knowledge has spur further Malaysian educationists to explore the possibility of its usage in the teaching and learning process which is known as e-learning application totally. But the teaching and learning process in the distance learning perimeter was still the guided one and it is different from Ian Ruffed (2002) e-learning concept, which described as the way people communicate and learn electronically in interactive online learning and web-based training not until recent years.

Related Literature

The emergence of digital technologies has increased the interest in the computerized delivery of higher education, which led to e learning through electronic mail, internet, World Wide Web and multimedia. To be successful, effective and of a quality comparable with some of the traditional education learning system, the electronic learning system must be designed and constructed with care, using a scientific approach which embraces well- designed procedures and techniques. Still the main concern here is the accessibility of distance education offered by Universiti Malaya and the working adult student that eventually results in producing qualified adult learner for the job market and excellent in education. At present, Universiti Malaya has equipped themselves with tailored off campus studies Learning Management System to cater the needs of the demanding adult learners.

Therefore, guided off campus distance and e learning teaching and learning methodology introduced by the Universiti Malaya are more or less alike to other public universities in Malaysia with ulterior aim to produce qualified man power for the nation
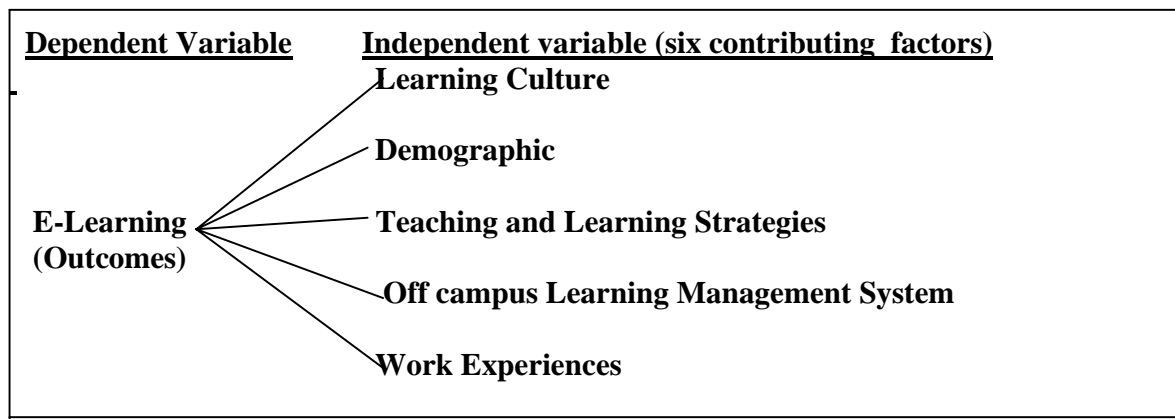
The Malaysian methodology in the distance and e learning environment are the guided techno-led and human blended together which proof to be the best methodology in teaching and learning process for the adult learners in life long learning. In fact, almost all the public universities conducted the teaching and learning process for the adult learners by combining both the electronic-enabled learning system and traditional teaching and learning methodologies because as Young (2001) suggested that e- learning works best within a blended training solution which incorporates traditional methods as well as technology-led learning. One method is to utilize it as a method of providing a consistent level of skills within a team of delegates prior to them participating in an instructor-led session so they can get the most out of the training and the instructors' time and knowledge. Elsinger (2000) also mentioned that by combining traditional learning characteristics with the unique environment available on-line, elements that emerge would differentiate excellent e learning, namely the sharing of knowledge.

On the other hand, Lalita Rajasingham (1996) has pointed out that effective, cost-efficient instruction that can match the needs for skills related to technological change, delivered interactively, at the convenience of the learners. The adult learners, no matter where their physical location would be, should be able to interact with the academic staff, with the content and with one another in synchronous and or asynchronous mode, namely the off campus mode. This is tele- learning. As digitalization allows the mergers of tele-communications and computer giving us information technology, new ways of learning and teaching will challenge the traditional classroom, not to replace it but to provide alternative.

Research has proven that computer and Internet are an added advantage towards educational application because of its effectiveness in Computer Aided Instruction (CAI) in the teaching and learning process The computer assisted learning approach is in fact a very useful and effective tool in adult learners' learning process. Researches have been done on this by Alderman; Kulik, Bangert and William (1983). They have proven that faster learning process; easily remembered; positive attitude and active response towards the application of computer in their learning process and the best part is acquired learning flexibility. Therefore, the means of acquiring knowledge to contribute not only to adult learners self actualization in their career path but also contribution to the development of the country are based on the outcome from the guided face to face and ICT technology led teaching and learning process in the off campus distance and e learning which , the university Malaya approach has proof very fruitful.

Research Objective

The objective of this study is to examine and determine the learning outcome of the present off campus adult learners of Universiti Malaya, particularly at bachelor level and post bachelor level who have followed the learning module in distance and e learning in the various faculties in Universiti Malaya. The objectives would be to develop an innovative and creative Learning Management System couple-up with face to face weekend lectures and tutorials to create a highly effective and high quality life long education environment. The e learning and teaching culture of the Universiti Malaya has great influence in determining the level of achievement and learning outcome

Dependent Variable	Independent variable (six contributing factors)
	Learning Culture
	Demographic
E-Learning (Outcomes)	Teaching and Learning Strategies
	Off campus Learning Management System
	Work Experiences

Figure 1: Framework

Research Methodology

A survey questionnaire was given to 120 adult learners from the four faculties in Universiti Malaya, Kuala Lumpur, Malaysia picked randomly (30 respondents from each faculties) . The questionnaire consists of 80 questions divided into 2 parts: Part 1 consists of questions on the respondent's demographics and Part 2 on the dependent and independent factors. Likert 5-point scale was used for the questions in Part 2. Parametric statistical tests were used to analyze the data.

Details of the four faculties from Universiti Malaya were also studied from secondary data. This is to determine the learning outcomes of adult learners in the distance and e learning environment.

RESULTS

Reliability of instruments

Cronbach Alpha statistic is found to be 0.932; therefore the reliability of the questionnaire is acceptable.

Descriptive Statistics

Table 1: Summary of Respondents' Characteristics

	FREQUENCY	PERCENTAGE (%)
1. GENDERS		
Male	30	25
Female	90	75
2. RACE		
Malay	76	63.3
Chinese	35	29.2
Indian	9	7.5
3. Academic Achievement		
STPM/Diploma In Teaching	40	33.3
Bachelor degree	80	66.7
4. Experience in using ICT		
1-3 years	48	40
4-6 years	40	33.3
>7 years	32	26.6
5. Using ICT to excess to information		
Yes	106	88.3
No	14	11.7
6. Using Internet in learning Process.		
Yes	98	81.7
No	22	18.3

Table 1.1 and 1.2 summarize the respondents' characteristics. They are 30 male (25%) and 90 female (75%) adult students undertaking off campus diploma and degree courses in from the four surveyed public universities. Among them are 76 Malay (63.3%), 35 Chinese (29.2%) and 9 Indian (7.5%). Table 1.3 shows 80 respondents posses Bachelor in various discipline (66.7%) and 40 STPM or diploma in teaching holders (33.3%). Table 1.4 shows that 48 respondent have between 1-3 years experience in using ICT (40%), 40 respondents have between 4-6 years experience (33.3%) and 32 respondents have more than 7 years experience in using ICT (26.6%). Table 1.5 shows that 106 respondents using ICT to excess to information (88.3%) and 14 respondents (11.7) do not use ICT to excess to information whereas Table 1.6 above shows that 98 respondents (81.7%) using internet in their learning process.

Inferential statistics

Table 3: Results of Pearson correlation tests.

Correlation test between	r	p value	N
1. Adult learners' academic achievement from 4 faculties and the outcomes of e learning	0.656	< 0.001	120
2. Adult learners' experiences in using ICT and the outcomes of e learning	0.683	0.001	120
3. Adult learners' excess of information and the outcomes of e learning.	0.785	<0.001	120
4. University's commitment and the effectiveness of the e-learning programs	0.649	<0.001	120

Note: $\alpha= 0.01$; r = corrélation coefficient; N= Total respondents.

Tables 3.1 above shows there is a strong and positive relationship between adult learners' academic achievement and the outcomes of e learning from the surveyed four faculties of Universiti Malaya, over all the adult learners are STPM or diploma holders who are pursuing a degree course in various discipline in all the four faculties and degree holders who are pursuing master courses in various disciplines in Universiti Malaya.

Table 3.2 above shows the adult learners normally have had experiences in using ICT to excess to the much needed information in their studies. Since the adult learners gain their skill in the technology usage and application from their work experience, as well as the extensiveness of ICT technology application either in the public and private organizations throughout Malaysia. The Malaysian government has to be praise in this perspective because since the inception of ICT technology to the country in the late 1080s, the government's priority is to bridge the technological divide among its population.

Table 3.3 above shows the adult learners also surf extensively the internet by using world wide web(www) or Local Area Network , intranet in their organizations not only to excess the references or information but also using the intranet and net-working to study collaboratively among themselves

Table 3.4 shows that all the four surveyed faculties are committed in providing the distance and e learning facilities effectively to cater the need of expanding adult learners' population in various disciplines of studies as to heed the country's vision and mission of achieving as a develop country status by year 2020 and develop advance human capital.

DISCUSSION

The five contributing factor to the learning outcome of distance and e learning in four faculties in Universiti Malaya adult learners demographic continuum, adult learners learning culture, faculties' teaching and learning strategies, Faculties' off campus Learning Management System and adult learners' personal factor and work experiences. Each of the above mentioned factors are equally important.

Table 4: Summary of one-way ANOVA. Significant different between demographic continuum and the four faculties of Universiti Malaya

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.459	2	.729	17.337	.000
Within Groups	1.893	45	.042		
Total	3.352	47			

Note: Value of F Prob. = 0.000 which is smaller than α Level of 0.05

Table 4 above shows there is a significant difference between the respondents' demographic continuum and the four faculties in Universiti Malaya

As the demographic continuum of the respondents from those surveyed faculties will leads to a more significant background of adult learners by offering marketable and employable courses, the targeted adult learners are those STPM or diploma holders who work in the various local public agencies and private organizations as well as government school English Language teachers who are upgrading themselves to take up the master in TESL courses offered by Language faculty. Some enrolled in the faculty of education to advance their career in the master of education level for the sake of improvement as well as higher economic gain in their job

Table 5: Summary of one-way ANOVA. Significant different between learning culture and the four faculties of Universiti Malaya

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.459	2	.729	17.337	.000
Within Groups	1.893	45	.042		
Total	3.352	47			

Note: Value of F Prob. = 0.000 which is smaller than α Level of 0.05

Table 5 above shows there is a significant difference between the learning culture practices by adult learners of the four surveyed faculties in university malaya. The significant difference of learning culture is due to perception, knowledge, attitudes and changes among the adult learners. The backgrounds of adult learners in the surveyed faculties are different. Therefore, their main agenda of joining the distance and e learning are different. Some may take up the off campus

distance learning as to past time, to have monetary and economic gain later or to show that they are able to achieve something in life. But all in all, almost all adult learners are in to upgrade themselves both psychologically and economically. But in line with the government's appealing for integration and achieving high caliber human capital. Sometime institution of higher learning should have practice 'people focused organization' because Ed Weymes (2005) argue that when an organization extends its focus to encompass society and the environment, members of the organization can be inspired to share the dream of the organization.

Changes of university's teaching and learning culture are inevitable especially the sharing of e learning platform and technology. One has to ask the willingness of organization to invest in a paradigm shift from knowledge hoarding to knowledge sharing. Organizations that succeed in knowledge management are likely to view knowledge as an asset and to develop organizational norms and values to support the creation and sharing of knowledge (Devenport et.al, 1998).

Table 6: Summary of one-way ANOVA. Significant different between teaching and learning strategies and faculties of Universiti Malaya

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.423	3	1.141	4.736	.006
Within Groups	10.600	44	.241		
Total	14.023	47			

Note: Value of F Prob. = 0.006 which is smaller than α Level of 0.05

Table 6 above shows there is a significant difference between the teaching and learning strategies between distance and e learning course tutors of the four surveyed faculties in Universiti Malaya example ICT, Face to Face teaching and learning techniques from the faculties. The significant difference between teaching and learning strategies and the four selected faculties probably are due to the department of distance learning ability and skill to use the strategies to convince the staff to the maximum capacity to carry out the teaching and learning strategies. Some time the course could improvise what he or she thinks best for the adult learners. The important aspect here is the knowledge been disseminated and to accomplish organizational task. As Glenn Rothberg (2004) suggest that ideas contribute to the achievement of high performance, excellence, and competitive advantage.

Off campus distance and e learning course tutors must use the advancement of the ICT to up-grade themselves in the teaching and learning process. This can be done by life-long learning concepts and practices. It is important because a total of 97% of college students today use Internet for research and 70% use the Internet daily (Hamm, 2000). It will bring cultural change to tertiary education especially for the adult learners in harness the Malaysian life long learning process.

Table 7: Summary of one-way ANOVA. Significant different between Learning Management System and the faculties in Universiti Malaya.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	7.516	3	2.505	6.689	.001
Within Groups	16.479	44	.375		
Total	23.995	47			

Note: Value of F Prob. = 0.001 which is smaller than α Level of 0.05

Table 7 above shows there is a significant difference between the learning management systems among the four survey faculties in Universiti malaya. The significant difference between the learning management systems is due to the ICT technology platform the faculties concern acquired and uses in the teaching and learning process for the adult learners. The faculties' ability to spend the allocation by providing latest up to date data as well as state of the art technologies which would enable the adult learners to learn. So, faculties' which could provide the e learning platform through acquiring or through vendors could provide better service to the adult learners and hence better than those have not because andragogical methodology for the adult learners are much dependable on the adult learners self learning and independency. A few faculties may combine together to enhance a centralize e learning platform or Learning management system to safe cost.

The proper and maximizing usage of the ICT enables e learning and teaching technology could account for the success in distance and e learning program in the university. This may accommodate extra bandwidth to their existing technology as John Chambers (2000) of CISCO System said 'by sticking to the two fundamental equalizers in life namely internet and education', to fuse the two, it provides an efficient way to empower workforce with the skills and knowledge it needs to compete amid the rapid pace of change where knowledge management involves a mix of cultural, organizational, process, management and technology initiatives (Rosemary Wild, Kenneth Griggs and Tanya Downing, 2002).

Table 8: Summary of one-way ANOVA. Significant different between personal factors, working experiences of adult learners and the faculties in Universiti malaya.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	8.752	3	2.917	8.739	.000
Within Groups	14.688	44	.334		
Total	23.439	47			

Note: Value of F Prob. = 0.001 which is smaller than α Level of 0.05

Table 8 above shows there is a significant difference between personal factors and working experiences of the adult learners in the four surveyed faculties of Universiti Malaya. The significant difference occurred probably due to the adult learners' willingness to learn and acquiring new knowledge to upgrade themselves in their work place later on, not just because of economic gain. It is more of psychological gain. The motivated adult learners probably would success in their undertaking compare with those fresh in-campus full time students. Some how the adult learners fare better

Conclusion and recommendations

The evaluation of the Universiti Malaya off campus distance and e learning system has to be carry out as soon as possible to check its maximum utilization as well as the successful implementation of life long learning in its various faculties. The significant differences among the surveyed faculties in Universiti Malaya show signs of not maximization in the application of its electronic enhance Learning Management System. To avoid improper handling of equipments, malpractices, mismanage, wastages, misuse of facilities etc. The university concern must initiate effective deployment of ICT and e learning facilities and its learning management.

The latest distance and e learning enhances technology and platform must be acquired by the faculties and must be fully utilized and well managed. Slowly by inculcating the life long new techno-learning culture, both for full time student and adult learners, we are able to realize the country's vision. In addition, the Ministry of Higher Education may even come out with an independent edu-portal to facilitate the teaching and learning process for adult learners in pursuing life long learning throughout the country.

The possibilities of introducing and implementing laptop for each adult learners under the future governmental plan, the weighs, problems and constraints on the structure such the technological advancements already in existence has to be accurately dealt with. (Nthunya.E, 2001)

The propose e learning model could be the Universiti Malaya's e learning portal which covered all its faculties for on campus as well as off campus student. Where lecture notes of all courses offered are uploaded into the system by lecturer and courses tutor, tests, tutorials, exercises, study guides, information from course tutor to students can be retrieve easily at any time in the computer laboratory or at home anywhere in the country once student registered as user and they have their own user name account and password where student could login.

Limitation of Study

The sample size for the survey is small. However, it will be increased in the final study.

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