INVESTIGATING THE EFFECT OF DISTANCE EDUCATION SYSTEM ON THE COMPUTER LITERACY OF MA STUDENTS IN TEHRAN UNIVERSITY

*M*ehran Farajollahi[1,] Mohamadreza Sarmadi[2], Bahman Zandi[3], Mohsen Keshavarz*[4]

keshavarz_mohsen@yahoo.com

Abstract-In Distance Education system, students must be equipped with seven skills of computer (ICDL) hence they must have high computer knowledge. This paper aims at investigating the effect of DE system on the computer literacy of MA students in Tehran University**.** The design of this study is quasi-experimental. Pretest and posttest were used in both control and experimental groups to undertake the study. The population of this study was students, those who participate in traditional and online education at university of Tehran. In order to gather required data, researcher-made questionnaires consisting of 59 items were used. The content validity index for the whole items of the questionnaire about computer literacy was 0.55. The reliability index for the whole test was 0.61. Data were analyzed by SPSS 16. In order to analyze data the following features were measured: frequency, percentage, standard deviation, T, covariance analysis, Kolmogorov-Smirnov test. The results of data analysis for computer literacy variable reveal that P value for Concepts of IT =0.010, File Management=0.001, Internet=0.03, Databases (Access) =0.03, and Presentation (power point) =0.001(online & traditional education), all are fewer than α=0.05. Therefore, the null hypothesis is rejected, but not the directional hypothesis. It can be concluded that, regarding computer skills, Concepts of IT, File Management, Internet, Databases (Access), and Presentation (power point), there is a significant difference between control and experimental groups. Regarding word processor and spreadsheets (Excel), P value is 0.11 and 0.75 respectively which are higher than 0.05, so the null hypothesis is rejected, but not the directional one and difference between these groups is not significant. To sum up, it can be stated that DE has a more significant impact on Concepts of IT, Internet and Presentation regarding computer literacy than traditional education. It can be stated that traditional education has a more significant impact on Concepts of File Management and Databases (Access) regarding computer literacy than DE.

Keywords: Distance Education, Computer literacy, Students, Higher education

[1.] Associate Professor, Department of Educational Sciences, Payam-e-Noor University, Tehran, Iran

[2.] Professor, Department of Educational Sciences, Payam-e-Noor University, Tehran, Iran

[3.] Professor, Department of Linguistics, Payam-e-Noor University, Tehran, Iran

[4.] PhD student of distance education Planning, Payam-e-Noor University, Tehran, Iran/This article is taken from PhD thesis. Email:Keshavarz_Mohsen@yahoo.com

Introduction

Distance Education can be defined as "all forms of education in which all or most of the teaching is conducted in a different space than the learning, with the effect that all or most of the communication between teachers and learners is through communication technology" (Moore, 2003), DE refers to the provision of opportunities to and eliminating unnecessary barriers for a diverse range of students in order to assist them to succeed in their education or training according to their specific needs and diverse learning settings (Butcher & Wilson-Strydom, 2008). Distance Education approaches include student- center approaches, resource- based and autonomous learning, indicating the central position of the student. Learning to learn is in itself a goal for students in order to develop critical thinking skills and the ability to learn independently. This philosophy becomes increasingly important for lifelong learning where people become functionally equipped to operate in the knowledge society (Butcher & Wilson-Strydom, 2008). With DE, the culture of learning has shifted from the tradition of students passively listening in a classroom where attendance matters, to the culture of proactive reading, encoding and decoding at anytime, anywhere, indicating DE efficacy (Kurtz, Amichai - Hamburger, & Kantor, 2009; Pena- Bandalaria, 2007). Today, throughout the whole world, computer literacy is the first step for any individual who wants to do anything with computer. From all works of life, there is hardly any area where computer knowledge is not important. This is very correct, especially in the system of distance education where computer literacy plays great roles from the beginning to the end of the educational structure. Today, Computer literacy has really drawn the attentions of millions of student especially in the system of distance education. This is because of the fact that virtually all student now requires the knowledge of the Computer. In fact, it is a very important requirement.

Literacy Computer

Preparing students to information society is considered today as one the basic roles of education. For some researchers, learning can be developed and students effectively prepared to business areas by integration of technologies and learning processes (Butzin, 2000; Hopson, Simms & Knezek, 2002; Reiser, 2001). Information has been increased by using technology, and effective use of technology is correspondingly related to information and information technology. Reaching information and increasing information literacy are directly connected to information and communication technology (ICT) use and computer literacy (CL). Considered increasingly by governments as an important factor in economic growth and development, CL has different descriptions by different researchers and instructors (Luu & Freeman, 2011; Ololube, 2006). The importance of computer literacy and competency in online environments has been discussed in a number of studies (e.g., Atkins & Vasu, 2000; Cunningham, 2000; Johnson, 2002; Lam, 2000; Oh & French, 2007; Park & Son, 2009; Rakes & Casey, 2000; Shin & Son, 2007).For Rochester & Rochester (1991), a person can be considered as computer literate if s/he has information about computer, s/he knows how it works and if s/he is able to operate and use a computer. There are other various definitions of CL going from the simplest to more complicated. For Walsh (2007), CL consists to turn on computer, to know logic of computer work, its components and how to effectively use computer programs to reach information; although CL is viewed as a unique domain but divided into sub-domains such as basic computer literacy, programming literacy. Computer literacy, the ability to use computers to perform a variety of tasks, is becoming fundamental to the learning process.

In conjunction with UNESCO, Mayes and Burgess (2010)   list the subsequent functions of LC in DE students as;

➢ An aid to the distribution of materials as a means of affording two-way Electronic communication;
➢ access to the internet and multi-way communication through networked computers;
➢ A process of diversifying into resource- based online education.

Distance Education and Trend of generations

Supported open and distance learning improves the potential for teachers to develop better links between new teaching practices, their own subject expertise and the application of the new methods in their own classrooms (Perraton et al., 2002) as well as becoming competent in using emerging technologies for teaching and learning purposes (Shohel & Power, 2010). According to the European Commission (1995): 'Distance education (DL) is concerned with the use of new resources (technical and/or non-technical) for rendering the learning process more flexible in terms of space, time, content, selection, access qualifications and teaching resources and/or for improving distance access to education systems. In this way, educational opportunities are extended to people who, because of their geographical, economic or socio-professional situation or because of a handicap, do not readily have access to the mainstream system of education. Distance education (DL) can help overcome barriers to transnational mobility and develop a kind of virtual mobility.' Open and distance learning involves a conceptual shift from the teacher to the learner and emphasizes the importance of student-centered learning that means a 'shift in research and practitioner interest from teaching and instructional design towards learning and the particularity of individual student response' (Thorpe & Grugeon, 1987). Therefore, Distance education (DL) focuses more on what the learner wants to learn, how the learner approaches learning and the socio-physical conditions for learning than what the learner should learn. To engage individuals in their learning processes, open and distance learning tries to motivate and empower for professional growth of individual teachers. However, supported open and distance learning is also preferable for other reasons such as scalability, sustainability and cost effectiveness compared with the traditional 'face to face' canter-based training approaches (Oliveira & Orivel, 2003). The concept of distance education evolving through generations provides a helpful structure when considering history and heritage. In 1989 Nipper, the first to use a generational framework, suggested three generations of distance education linked to production, distribution, and computer conferencing. Subsequently, these three generations were often labelled correspondence, broadcast, and computer mediated. The first two generations are fairly universally accepted. However, different writers, building on Nipper's work, have constructed subsequent generations somewhat differently. Moore and Kearsley (2005) describe the third generation as developing a systems approach; while Taylor (2001) says it was based on telelearning (audio/video conferencing). Taylor goes on to suggest a fourth generation that is linked to flexible learning based on online teaching, and a fifth generation that exploits additional aspects of "intelligent" digital technologies. Taylor classifies distance education into four distinctive generations and adds a fifth to his models of distance education: a conceptual framework (Taylor, 2001). Computer   literacy on the part of students is not essential for the first generation where learning is offered through the paper- based correspondence model. Most of the delivery technologies prevalent in the second generation (the multimedia model) do not require computer literacy either, except computer- based learning. In the third generation (the tele- learning model), none of the delivery technologies requires computer literacy. All of the delivery technologies in the fourth generation (the

flexible learning model) require computer literacy: interactive multimedia online, internet- based access to the World Wide Web resources as well as computer- mediated communication. Taylor's fifth generation, the intelligent flexible learning model, includes all the delivery technologies of the fourth generation, but adds automated response systems to computer - mediated communication and campus portal access to institutional processes and resources. Computer literacy is essential for participating in fourth and fifth generation distance education delivery technologies. This implies that at higher education level, students have to be ICT literate, or alternatively the institutions have to offer programs to develop their ICT proficiency. Electronic learning, in this era, has undoubtedly revolutionized the teaching-learning methods. Based on a recent survey, more than thirty percent of a researcher's time is spent by using IT instruments whose main reason is the development of IT in general and Internet in particular. Therefore, it is essential for the students to have enough knowledge for using computers to retrieve information from the net and other electric sources and increase their ability in permanent and independent learning. Computer literacy is the individual abilities for using computers and information technologies. These seven skills, known as ICDL which is an abbreviation for International Computer Driving License include windows, *Computer Essentials* (Concepts of IT and File Management Combined), *Online Essentials* (previously known as Information and Communication), *Databases Access*, *Word Processing, Power Point, and Excel* (ECDL, 2001). Gaining these skills in university enhanced students' independent learning and permanent learning in next phases. Regarding the importance of computer literacy to its real meaning, it can provide the necessary platform for empowering the researchers to better planning in research process, access to the proper information for any stage of the project and eventually the production of new knowledge. In order to act successfully in this revolutionized world, students need to know how to find and apply the information effectively. Universities not only must prepare students for working in a certain field, but also they have to teach students for permanent learning. This matter is significant because the next century is the era of information and computer society, such knowledge can decrease the economic poverty in the development of information hence it will play an effective and efficient role in the society. Regarding the issues discussed above, this study seeks to investigate the impact of DE system on computer literacy of MA students in Tehran University.

Research Goal:
- ❖ Investigating the Effect of Distance Education system on the Computer Literacy of MA Students in Tehran University

Research questions:
- ❖ Does Distance Education system have an effect on the *IT skill* of higher education students in Tehran University?
- ❖ Does Distance Education system have an effect on the *File Management skill* of higher education students in Tehran University?
- ❖ Does Distance Education system have an effect on the *Essentials Online skill (Internet skill)* of higher education students in Tehran University?
- ❖ Does Distance Education system have an effect on the Databases Access skill of higher education students in Tehran University?
- ❖ Does Distance Education system have an effect on the power point skill of higher education students in Tehran University?
- ❖ Does Distance Education system have an effect on the word processing skill of higher education students in Tehran University?
- ❖ Does Distance Education system have an effect on the *spreadsheets skill (Excel)* of higher education students in Tehran University?

Instruments and Methods:

This study seeks to investigate the effect of two kinds of Distance Education and Traditional educations on the development of the computer literacy and measure which type has more impact on it. The design of this study is quasi-experimental. In order to undertake the study, pretest and posttest were used in experimental and control groups. Fifty students comprised the control group and fifty students were assigned in experimental group. Considering the design of this study, which is a quasi-experimental, stratified random sampling, was used for this purpose. The syllabus of courses in entrepreneurship faculty, education and extension field and in Management faculty, government management field were compared together both in traditional and distant education (DE) types in winter semester of 93-94. The government management is the field of study in Management faculty and in entrepreneurship faculty, education and extension field from which students who study in attendant and virtual classes was selected as the samples of this study. Twenty six students from traditional students and twenty three from DE students (Management faculty) and Twenty four students from traditional students and twenty seven from DE students (entrepreneurship faculty) in the winter semester comprised the participants. To gather data, a 59-item researcher made questionnaire was used based on ICDL Standard (Appendix 1). The independent variable of this study is the instructional mode of course. There were two categories of the instructional mode: Traditional education and online education. The dependent variable of this study is the computer Literacy as measured by the Computer literacy Scale. In the first semester, computer literacy questionnaire was given to both groups (traditional and online education). Both groups took their courses within the educational system itself. After the end of the semester, computer literacy questionnaire was distributed for both groups (Figure 1). The content validity index for the whole test of 59 items of computer literacy was 0.55 which is an acceptable index compared to similar works. In order to calculate the reliability of computer literacy variable, Cronbach's alpha was used. The reliability index for the total test was 0.61 which showed that most of the referees considered that the items of the questionnaire were necessary for measuring the computer literacy which is in acceptable level in comparison to similar studies. SPSS version 16 was used in all steps of the data analysis. In order to analyze data the following features were measured: frequency, percentage, standard deviation, T, covariance analysis, Kolmogorov-*Smirnov* test. Regarding the aforementioned sections, the main purpose of this study is to investigate the effect of DE system on the computer literacy of higher education students in Tehran University.
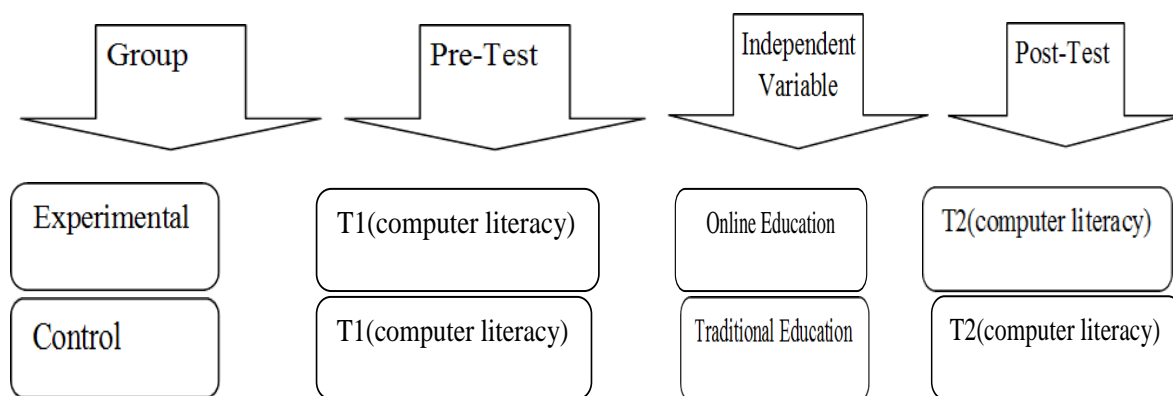

Figure1: Pre-test and post-test with control group without the use of random selection

Findings

Findings will be presented in three sections. In the first section, the variables of sampling of the population is described, in the second section, the research variables are explained and in the last section data will be analyzed based on the hypotheses of the study. Regarding the type of university, 49 out of 100 (49%) of the population were MA students of management faculty and 51 out of 100 (51%) were MA students of entrepreneurship of Tehran University. Considering students' age, 40% of the participants were younger than 25 years old and 37% of them were between 25-30 years old, and 23% were elder than 30 years old. As seen in table and graph 1, the distribution of the samples is shown based on the gender of the participants in this study. P value of Chi-square is 0.001 which is fewer than the P=0.05, so there is statistically significant difference between the frequency of the participants regarding their gender. Twenty three out of 100 participants are female (23%) and 77 are male (77%).

Table 1: the Distribution of the Participants Based on their Gender

Sex	Frequency	Relative Frequency	Chi-square Test	
			Score	Significance level
Female	23	%23	26/16	0.001
Male	77	%77		
Total	100	%100		

P=0.05
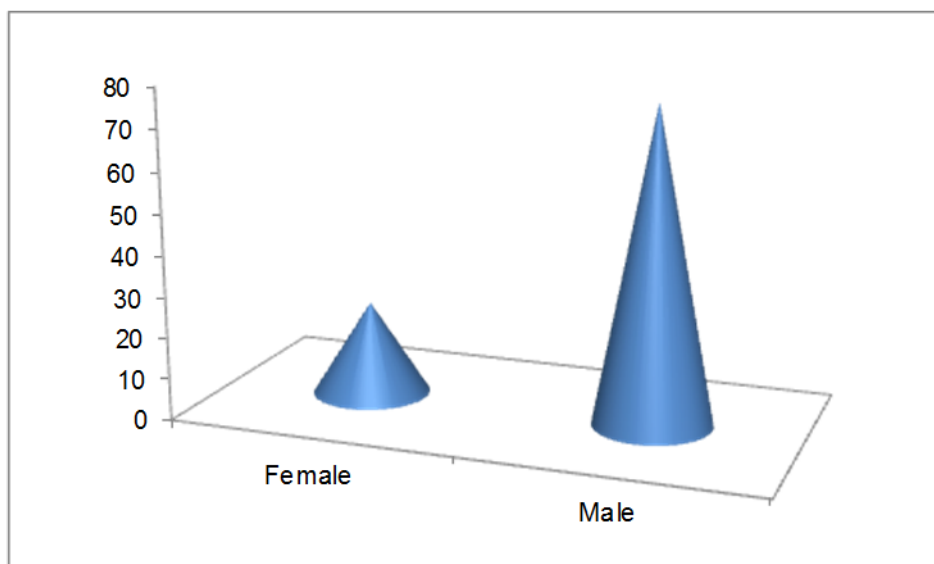
Graph 1: the Distribution of the Participants Based on their Gender

Table 2: Descriptive Statistics (Dispersion and Central Index) of Computer Literacy Variable in Control and Experimental Groups

	Group	Mean	Standard deviation	No.	Standard error of the mean
Pre-Test	Control	207/92	23/03	50	3/61
	Experimental	204/74	27/69	50	3/61
Post-Test	Control	211/30	24/10	50	4/12
	Experimental	210/82	33/41	50	4/12

Table 2 displays the basic information and distribution of computer literacy variable which shows that the mean score of pretest in both experimental and control groups do not vary drastically, and the mean score of posttest of these groups do not have a significant difference either. Standard error of measurement of computer literacy variable in two groups is almost in the same level. In such a design, the scores obtained from pretest are used to control the possible differences at the beginning of the experiment. There is no statistically significant difference between the pretest of these groups before commencing the experiment.

To study the homogeneity of error of variance, **Levene** Test, homogeneity of error of variance was used (Table 3).

Table 3: the Results of Levene Test for Homogeneity of Variance Error

variable	Df_w	df_b	F	Significance level
Computer literacy	98	1	1/12	0.12

P=0.05

The results of Table 3 reveals the homogeneity of error of variance which does not reject the null hypothesis in computer literacy variable, so it is concluded that error of variance in these variables are very close or identical. It can be generally stated that the error of variance of the variable is homogeneous. It is also shown in the Tables above that error of variance of the variable is homogeneous.

Keeping the distribution normal; Kolmogorov-*Smirnov* test was used. The analysis of the data is shown in Table 4.

Table 4: Kolmogorov-Smirnov test

variable	Significance level
computer literacy	0.316

P=0.05

Data analysis of Kolmogorov-*Smirnov* test with α=0.05 revealed that there is no significant difference for computer literacy variable P=0.316, so the null hypothesis (normal distribution) is not rejected, but the directional hypothesis (abnormal distribution) is rejected. Based on the information presented above, it can be claimed that the distribution of variables is normal. Keeping in mind that no distribution is exactly as normal as what we see in normal curve, the distribution in this study is similar to normal curve distribution and scores are scattered between -2 to +2 SD. Therefore, the rules of a parametric test are obeyed and analysis is possible in these conditions. The distribution of the variable is compared with the normal distribution below:
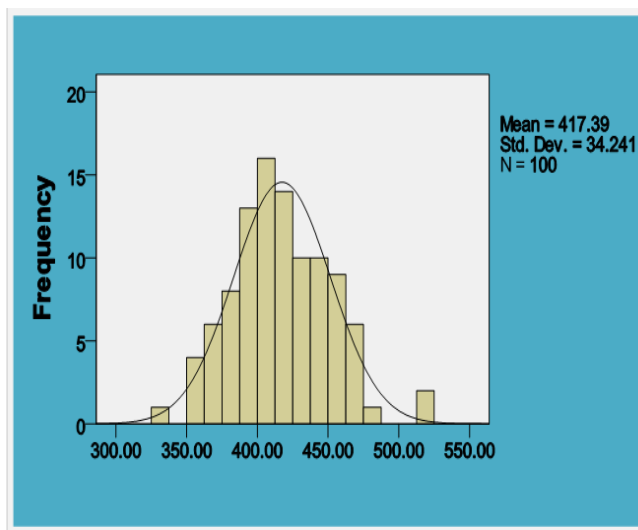
Graph 2: The Distribution of Computer Literacy Variable

As seen in the graph above, the distribution of the variable in this study is almost normal and has little deviation from normal distribution. So the primary requirements for covariance analysis exist and the condition for covariance analysis is convenient and parametric test can be administered. In the following, the main hypothesis of this study (there is a significant effect of studying DE on computer literacy) will be studied. Table 5

demonstrates the results of covariance analysis in four different types. Table 5 demonstrates the results of covariance analysis in four different types:

Table 5: the results of covariance analysis in four different types in Control and Experimental Groups

	Source of variance	Value	F	Degrees of freedom	Error of Df	Significance level
Interactive	Pillai's Trace	0.99	7421/61	2	97	0.001
	Wilks' Lambda	0.006	7421/61	2	97	0.001
	Hotelling's Trace	153/02	7421/61	2	97	0.001
	Roy's Largest Root	153/02	7421/61	2	97	0.001
Inter-group	Pillai's Trace	0.004	0.217	2	97	0.805
	Wilks' Lambda	0.99	0.217	2	97	0.805
	Hotelling's Trace	0.004	0.217	2	97	0.805
	Roy's Largest Root	0.004	0.217	2	97	0.805

Data analysis in Table 5 shows that the P=0.001<0.05, so the null hypothesis is rejected, but the directional hypothesis is not rejected. But in group effect section (P=0.805) so the directional hypothesis is rejected, but not the null hypothesis. It is concluded that there is not a significant difference between the computer literacy of control (traditional) and experimental (DE) groups. In the other words, the finding reveal that the mean scores of two groups are not different therefore, the impact of variable is not statistically significant. To make sure, other analyses will be presented below.

**Table 6: The Test of the Effect of Within Variables**

Dependent variable	Sum of squares Iv3	Df	Mean Squares	F	Significance level	Source
Post-Test	252/81	1	252/81	0.390	0.534	Correctional model
Pre-Test	5/46	1	5/46	0.007	0.935	
Post-Test	4257206	1	425706	6554/67	0.061	Interactive/ Inter-group
Pre-Test	4454632	1	4454632	5250/21	0.095	
Post-Test	252/81	1	252/81	0.390	0.534	group
Pre-Test	5/76	1	5/76	0.007	0.935	
Post-Test	65553/3	98	648/51	……….	…………..	Error
Pre-Test	83149/88	98	848/468	………...	………….	
Post-Test	4321013	100	………	……	………...	Total
Pre-Test	4537788	100	………	……	………	
Post-Test	63806/11	99	………	……	………	Correctional Total
Pre-Test	83155/64	99	……….	……...	………	

The results of Table 6 depict that the interactive impact of computer literacy variable between experimental and control groups is not significant. This means that two types of education (DE and traditional) have no significant effect on computer literacy. Though this is not a significant, it does not mean that there is no effect, but it is possible to affect the groups similarly which is discussed in more details in the following.

Table 7: The Results of Analysis for T-Test

Variable	Mean difference	Standard deviation	T	Significance level	Degree of Freedom
Pre-Test	3/18	5/19	0.624	0.221	98
Post-Test	0.480	5/83	0.082	0.068	98

Table 7 shows that P=0.221 and 0.68>0.05 regarding the computer literacy variable, so the directional hypothesis is rejected, but the null hypothesis is not refuted. Therefore, it can be concluded that there is no significant difference between the pretest of control and experimental groups. The other results reveal that there is not a statistically significant difference (P=0.68<0.05) in the posttest of computer literacy between control and experimental groups, so and this change has been similar in both groups.
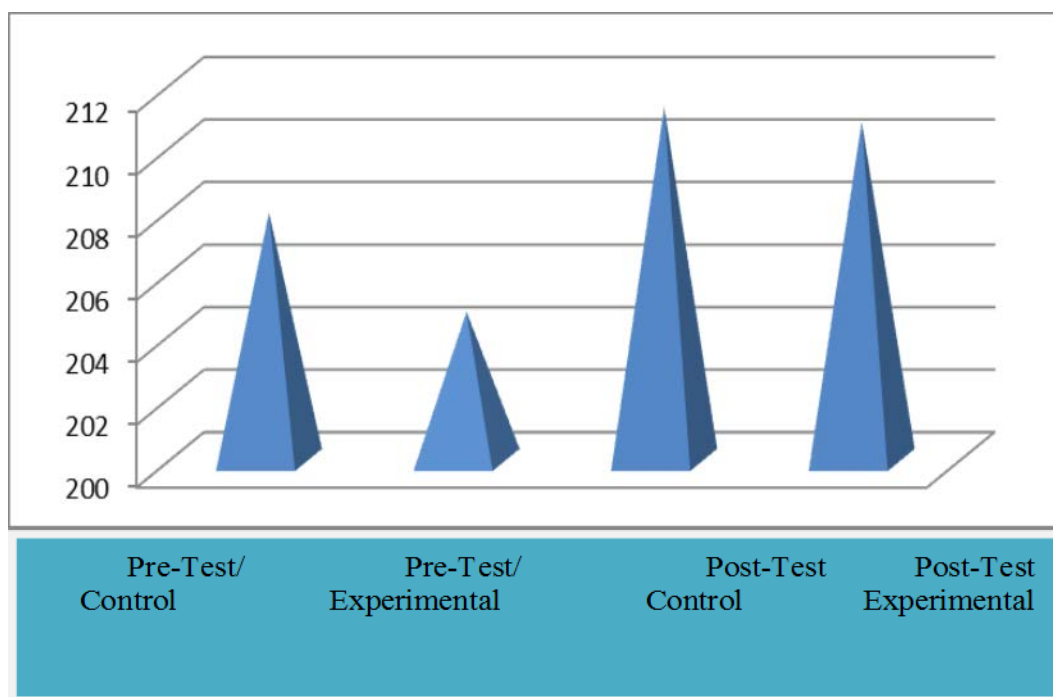
Graph 3: The Comparison of Pretest and Posttest for computer Literacy in Control and Experimental Groups

As seen in graph 3, in experimental group which has received DE and in control group which receives traditional education, computer literacy does not differ significantly. Therefore, it can be claimed that neither DE nor traditional education has a significant impact on the computer literacy. As a result, it can be claimed that both DE and traditional education have a effect on computer literacy but they did not have any significant difference with each other and both of them affect computer literacy in the same level.

Table 8: The Analysis of Factors of Computer Literacy Variable

variables	Group	Test	Mean	Standard deviation	Standard Error	T	Significance level
Concept of (IT)	Experimental	Pre- Test	3/37	0.77	0.25	2/64	0/010
		Post- Test	4/03	0.52			
	Control	Pre- Test	3/45	0.66			
		Post- Test	3/78	0.43			
File Management	Experimental	Pre- Test	3/49	0.62	0.17	5/99	0/001
		Post- Test	3/52	0.37			
	Control	Pre- Test	3/56	0.37			
		Post- Test	3/95	0.56			
Microsoft Word	Experimental	Pre- Test	3/57	0.64	0.19	1/61	0.11
		Post- Test	3/71	0.67			
	Control	Pre- Test	3/41	0.61			
		Post- Test	3/90	0.47			
Essential Internet	Experimental	Pre- Test	3/39	0.58	0.03	2/02	0.03
		Post- Test	3/95	0.62			
	Control	Pre- Test	3/52	0.63			
		Post- Test	3/78	0.49			
Excel	Experimental	Pre- Test	3/27	0.55	0.03	0/32	0.75
		Post- Test	3/89	0.63			
	Control	Pre- Test	3/23	0.64			
		Post- Test	3/92	0.39			
Access	Experimental	Pre- Test	3/34	0.78	0.29	2/20	0.03
		Post- Test	3/85	0.61			
	Control	Pre- Test	3/05	0.51			
		Post- Test	3/89	0.53			
Power Point	Experimental	Pre- Test	3/32	0.49	0.03	5/90	0.001
		Post- Test	4/05	0.39			
	Control	Pre- Test	3/35	0.71			
		Post- Test	3/59	0.43			

The results of data analysis of Table 8 for computer literacy variable reveal that P value for Concepts of IT =0.010, File Management=0.001, Internet=0.03, Databases (Access) =0.03, and Presentation (power point) =0.001(online & traditional education), all are fewer than α=0.05. Therefore, the null hypothesis is rejected, but not the directional hypothesis. It can be concluded that, regarding computer skills, Concepts of IT, File Management, Internet, Databases (Access), and Presentation (power point), there is a significant difference between control and experimental groups. The mean scores of Concepts of IT, Internet and Presentation (power point) are increased after the experiment in DE and traditional education has a low impact on their computer literacy (Concepts of IT, Internet and power point). The mean scores of Concepts of File Management and Databases (Access) are increased after the experiment in traditional education and DE has a low impact on their computer literacy (File Management and Databases Access). Regarding word processor and spreadsheets (Excel), P value is 0.11 and 0.75 respectively which are higher than 0.05, so the null hypothesis is rejected, but not the directional one and difference between these groups is not significant. To sum up, it can be stated that DE has a more significant impact on Concepts of IT, Internet and Presentation regarding computer literacy than traditional education. It can be stated that traditional education has a more significant impact on Concepts of File Management and Databases (Access) regarding computer literacy than DE.

Conclusion and Discussion

According to Table 8, P value for Concepts of IT =0.010, File Management=0.001, Internet=0.03, Databases (Access) =0.03, and Presentation (power point) = 0.001, all are fewer than α=0.05. Therefore, the null hypothesis is rejected, but not the directional hypothesis. Regarding word processor and spreadsheets (Excel), P values are 0.11 and 0.75 respectively which are higher than 0.05, so the null hypothesis is rejected, but not the directional one. So DE has a more significant impact than traditional education on the following factors: Concepts of IT, File Management, Internet, Databases (Access), Presentation (power point) regarding computer

literacy. But no significant effect of DE and traditional education was observed on the word processor and spreadsheets (Excel). Nowadays, it is essential for students to have comprehensive computer knowledge and skills, specifically in DE system which is considered as one of the factors influencing development. Having ITC knowledge and skills resulted in the enhancement of students' confidence in digital societies.

In the contemporary era, doing university tasks requires computer knowledge, so developing such abilities ends in students' better performance in and consequently the more efficiency of universities will be reported. Furthermore, it can increase the value of individuals in his office since it results in more independency and increases the motivation and the feeling of job success and decreases the costs germane to providing services from technical sections of universities. Some studies have been done in the country and abroad germane to the topic of this paper which presented below. Hiss, in a study entitled "the effective factors on the computer literacy of Taiwanese students", concluded that male students have more computer literacy than female. Moreover, students in private universities have the same advantage over the students in state universities (Hiss & Yeong,2000) Wallace and Clariana, in their study entitled: "understandings versus facts: determining students' computer literacy skills and their need to teaching concepts and technology, investigated the computer skills regarding spreadsheets (Excel) and computer knowledge of newcomers by means of web-based tests. The findings revealed that the mean score of students is significantly lower than $\alpha=0.05$(Wallace and Clariana, 2005). Heysung, in a study entitled: "the effective factors on accepting IT by teachers", concluded that teachers' attitudes towards IT have a significant relationship with using IT (Heysun, 2004). The findings of Zareeizavaraki revealed that there is a significant relationship between using computer and Internet by university lecturers and the period of students' learning. Students who are in contact with professors using web-based connections have more information about word processor, power point, Excel, Internet and also apply them than other students who are in contact the professors who cannot take advantage of computer skills (Zareeizavaraki, 2003). Conducting a research by Lotfinejad et al, entitled: "computer and informational literacy of students of Orumiyeh medical university", they concluded that most of the students having access to computer at home but they hadn't passed any educational course germane to computer yet. They also have the ability of sending, receiving and attaching the file but they do not have the ability to use modern facilities for searching and search functions (Lotfinejad et al,2006). Sharifi, in his study, concluded that there is a significant relationship among features such as individual, educational, teaching experience and the amount of using information technology but no significant relationship between university degrees with amount of using information technology in university fields was observed (Sharifi,2004). Alishan et al, in a study entitled: "the study of information literacy of Bandar Abbas medical students "concluded that the mean score of knowledge of Internet use and amount of using this element is higher than the mean score but generally students ' computer literacy is lower than the mean(Alishan et al,2007). One of the reasons why students need to have the knowledge of IT, Word, and Internet is that these skills are applicable in their everyday life. The findings of his research revealed that, in most of the variables, students who receive DE in experiment group outperformed the students who receive traditional education in control group. The findings of this study also showed that DE had a more significant impact on students' computer literacy than traditional education. The enhancement of students' computer literacy plays a basic role in developing independent learning skills and permanent learning. As it is necessary for an individual to monitor his/her own learning in order to be successful in E-learning and be self-guide in this active process, s/he must have a high level of computer literacy. At the end, regarding the importance of the computer literacy, it is suggested that the educational managers, designers, and planners pay attention to the enhancement of computer literacy in selecting the goals and contents and teachers consider this type of literacy in choosing teaching methods. Finally, it is suggested to the researchers to conduct more research germane to computer literacy in the application of these skills in DE settings. Generally, considering the research findings and policies of Distance University based on high education for all, everywhere, every time, it is essential for the university policy makers and planners to have a special look at Open University and DE to the development and improvement of students' computer literacy. To this end, the following are suggested:

➤ Holding practical sessions to improve and increase students' computer literacy in universities.
➤ Students' access to the magazines and brochures relevant to the computer literacy.
➤ Conducting research projects germane to students' computer literacy.
➤ Taking IT courses which are the bases for computer literacy for university newcomers.

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Appendix 1
Computer Literacy Questionnaire
COMPUTER LITERACY QUESTIONNAIRE
We are grateful for your participation and assistance in answering this questionnaire. We would like to know something about your computer experience, knowledge and skills. Please answer all questions as accurately as you can.
SECTION I
➢ For each question, please mark your response with a tick (√), unless otherwise indicated. For 'Other' responses, provide a brief response.

Q1. Sex
Male   Female
Q2. Age
25 years old   between 25 to 30 years old   More than 30 years old
Q3. Faculty
Management   Entrepreneurship

SECTION IV
➢ The following questions cover general areas of computer knowledge. You may not know the answers to all questions, but please attempt to answer them without asking others or referring to books.
Q18. Please choose the best answer for each question and put a tick (√) in the box at the appropriate spot: '1', '2', '3', '4' or '5'
1= A Great Deal
2= Much
3=Somewhat
4= Litter
5= Never

row	Concepts of Information Technology	1	2	3	4	5
1	Can you recognize the major components of CPU?					
2	Can you recognize the difference between Bit and MB?					
3	Can you install the Windows operating system?					
4	Can you recognize the difference between LAN and WAN CPU?					
5	Do you know the terms of ADSL, ISDN, and PSTN?					
	File Management					
1	Can you lock the Windows operating system?					
2	Can you change the format of the screen?					
3	Are you familiar with the terms of DOC, MDB, and XLS?					
4	Can you retrieve the deleted data?					
5	Are you familiar with The file compression program (WinZip)?					
6	Can you perform the file management including creating, coping, cutting, deleting and renaming files, etc.?					
7	Can you search the various folders and files on a computer drive?					
	Microsoft Word					
1	Do you know the Application of all the commands in the Word menu?					
2	Can you work with icons of Bold, Italic, under line?					
3	Can you apply the effect of superscript and subscript in a text?					
4	Can you convert the Lowercase to uppercase in a text?					
5	Can you apply the symbols and special characters in a text?					
6	Can you change the Color, font and size of a text?					
7	Can you set the line spacing and paragraph?					
8	Can you create a table in the text and add its Rows and columns?					
9	Can you work with other formats except word such as RTF?					
	Essential Internet					
1	Can you use a search engine (such as Yahoo, Google, etc.)?					
2	Do you know the deference between the terms of forward and reply?					
3	Are you familiar with terms of URL, WWW, and ISP?					
4	Can you recognize the internet sites from the blogs?					
5	Can you work with Microsoft Outlook for emailing?					
6	Can you send an email for others?					
7	Can you use of text and voice chat?					
8	Can you open a file attached to an e-mail?					
9	Can you use of video conference on the internet?					
10	Can you participate in online virtual classes?					
	Excel					
1	Are you familiar with concepts of worksheet, workbook, cell, row, column in Excel?					
2	Can you create a worksheet in excel?					
3	Can you delete the information in the cells of a worksheet?					
4	Can you change the name of a worksheet?					
5	Can you work with the computational functions in Excel?					
6	Can you change the Width and height of a cell?					
7	Can you draw different types of bar charts, column chart, line charts, and pie charts in Excel?					
8	Can you add the titles and labels to a chart?					
	Access					
1	Can you open the Access database?					
2	Can you work with the tabs report, forms, queries and tables In the Database window?					

3	Can you delete the information in the cells of a worksheet?					
4	Can you change the name of a worksheet?					
5	Can you work with the computational functions in Excel?					
6	Can you change the Width and height of a cell?					
7	Can you draw different types of bar charts, column chart, line charts, and pie charts in Excel?					
8	Can you add the titles and labels to a chart?					
	Access					
1	Can you open the Access database?					
2	Can you work with the tabs report, forms, queries and tables In the Database window?					
3	Do you know the difference between operation and issues options?					
4	Do you know how to work with records and fields?					
5	Can you work with table wizard?					
6	Can you save & copy a record?					
7	Can you freeze and unfreeze a particular column in the Access?					
8	Can you create a table in design view?					
9	Do you know the application of difference type of data (Number, Currency, and Auto Number) in Access?					
10	Can you add a new field to table in access?					
	Power Point					
1	Can you insert a text into a slide?					
2	Can you edit a slide text?					
3	Can you add a new slide to a show file?					
4	Can you insert graphics as a sign into slides?					
5	Can you show and hide the slides?					
6	Can you change the slides appear by using special effects to in the background?					
7	Can you change the slides design?					
8	Can you insert a picture into slide?					
9	Can you create an organizational chart in a slide?					
10	Do you know how to work with the icon of slide transition?					