

UBIQUITOUS LEARNING (U-LEARNING) AWARENESS AMONG THE TUTICORIN DISTRICT B.ED., TRAINEES

By

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ABSTRACT

The rapid development of information and communication technologies during the past two decades has had many points of contact with education and training. The use of technology in colleges and schools is not new. Teacher training often includes computer-assisted learning along with other multimedia presentation techniques. The power of ICT over other technologies lies in the "information" and delivery capabilities (Peak, Berge & Zane, 2006). The global network brings learning outside the classroom at any time, any place. Interactive communication without time constraint between and among students and teachers-from local to global level-allows sharing of ideas and experience more easily. Wireless connectivity, notebooks, PDAs and their design and use, a transition from electronic learning (e-learning) to mobile learning (m-learning) is one of the challenges being faced by educational institutions. The recent trend of e-education is called as ubiquitous learning. That is, we learn everywhere and every time. So the investigator decided to take the study "A study on u-learning awareness among the B.Ed., trainees of Tuticorin District". The objectives of the study were to find out whether there is any significant difference in the mean scores of u-learning awareness among the B.Ed. trainees with respect to their age, marital status, group and residence of home and to find out whether there is any significant association between parents' income and their children's u-learning awareness level. This paper explores the level of ubiquitous awareness among the B.Ed., trainees.

Keywords: E-learning, U-Learning Awareness, B.Ed., Trainees.

INTRODUCTION

The emergence of new technological environment may revolutionize the teaching learning process (Merrill & Paul 2005). The role of the teacher will be different from the traditional classroom teaching. The teacher could be a manager, monitor, role model, counselor, facilitator and a social worker. Teaching methodology will shift from teacher-centered education to learner-centered education. Teacher's dominance will be replaced by the knowledge dominance. In future, another teacher who applies these technologies in the classrooms will replace a teacher who does not apply these technologies (Littlejohn, Allison., et al. 2009). Technology allows more creative and independent learning. To maintain standard or quality in education, one should make use of electronic technology in teaching learning process (Morice & Jenny, 2002) (Sources from www.ncsi.iisc.ernet.in). So the investigator has to find out the level of ubiquitous learning awareness of the

B.Ed., trainees. This has got a direct bearing on equality of education in the modern world.

U-Learning Awareness

The investigator defines that u-learning = e-learning + m-learning. Ubiquitous learning is the combination of electronic learning and mobile learning environment (Thiyagu, 2009). The dictionary meaning of ubiquitous seems to be everywhere or in several places at the same time. A ubiquitous learning environment is any setting in which students can become totally immersed in the learning process. It is reported to be both pervasive and persistent, allowing students to access education flexibly, calmly and seamlessly. U-learning has the potential to revolutionize education and remove many of the physical constraints of traditional learning. Furthermore, the integration of adaptive learning with ubiquitous computing and U-learning may offer great innovation in the delivery of education, allowing for personalization and customization

to student need. Simply, U-learning means "everywhere learning" (the internet or learning content follows people around). Core "knowledge pots" (work-related content, personal knowledge, internet) hold content and information. Various devices plug in and retrieve the information in the appropriate format (PDA, cell phone, laptop, or any other appliance). It fulfills e-learning's promise of "anytime, anywhere, and any context" (Bassoppo-Moyo & Temba 2006).

m-learning is a subset of e-learning. E-learning is the macro concept that includes online and mobile learning environments (Lam, Paul, Naught & Carmel 2007). 'M-learning is e-learning through mobile computational devices: Palms, windows CE machines, even your digital cell phone' (Figure 1) (Keegan & Desmond 2002).

The investigator defines that u-learning awareness is an awareness of ubiquitous learning. The investigator divides the u-learning awareness into five dimensions. The dimensions are as given below: (i) computer knowledge (ii) internet skill (iii) e-learning (iv) mobile learning and (v) u-learning awareness.

Objectives of the Study

- To find out whether there is any significant difference in the mean scores of u-learning awareness among the B.Ed. trainees with respect to their age, marital status, group and locality of the home.
- To find out whether there is any significant association between parents' income and their children's u-learning awareness.

Hypotheses of The Study

In the present study, the following hypotheses have been

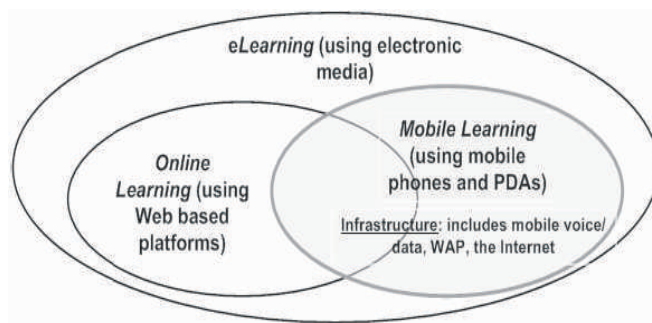


Figure 1. Diagrammatic Representation of e-learning (Using Electronic Media)

formulated.

- There is no significant difference in u-learning awareness among the trainees with respect to their age, marital status, group and residence of home.
- There is no significant association between parents' income and their children's u-learning awareness.

Method Selected for The Study

In the present study, the investigator employed the 'survey method'. Survey method is a method for collecting and analyzing data, obtained from large number of respondents representing a specific population collected through highly structured and detailed questionnaire or other techniques (Best, 1983).

Selection and Construction of The Tool

As there is no suitable tool available for the present study, the investigator has constructed and validated a scale to measure the ubiquitous learning awareness of B.Ed., students'. As the first step the investigator has collected variety of information regarding ubiquitous learning awareness from various sources like internet search, journals and books. The investigator has constructed the questionnaire with five dimensions. The dimensions of the questionnaire were as follows: computer knowledge, internet skill, e-learning, m-learning awareness and u-learning knowledge.

Under the five dimensions, there were 80 items in the u-learning. Some items were boring complex and the investigator wanted to simplify the language and content. So the investigator has given the items to the experts. Through their guidance and advices, the investigator has modified certain items and finalized the scale, based on the experts' opinions. The final draft of the tool consisted of 55 items. Their choices were given for each item in the form such as, yes and no, in two columns. The respondents were requested to put a tick mark in the column in which they feel the most appropriate. Each answer was allotted a maximum mark of one to a minimum mark of zero according to the respondents of the respondent.

The detail questions number dimensions of the u-learning awareness scale are as follows:

Computer knowledge = 15 to 23

Internet skills	=	33	to	43
E-learning awareness	=	01	to	14
M-learning awareness	=	24	to	32
U-learning knowledge	=	44	to	55

Reliability and Validity of The Tool

To find out the reliability of the tool, test and retest method was used. The reliability of the test has been calculated by using Pearson's product-moment correlation coefficient formula. The value obtained was 0.87.

In this investigation the tool was submitted to the panel of experts. They scrutinized the developed tool and their suggestions were incorporated. Thus the validity of the tool is established by using content validity.

Sample for The Study

In this study, all the B.Ed., Trainees studying in College of Education in Tuticorin district, Tamil Nadu have been taken as the population for the study.

A good sample must be a representative of the entire population. For this study, 300 B.Ed., student teachers has been collected using random sampling technique.

Statistical Techniques Used

Statistical techniques serve the fundamental purpose of the descriptive and inferential analysis (Aggarwal, 1986). The following statistical techniques were used in the present study, Mean (M), Standard Deviations (S.D), 't' test and Chi square test.

Hypotheses Testing

Null Hypothesis - 1

There is no significant difference in u-learning awareness among the trainees with respect to their age, marital status, group and locality of the college.

Null Hypothesis - 2

There is no significant association between parents' income and their children's u-learning awareness levels.

Summary of Major Findings

There is no significant difference between below 23 age and above 23 age group' secondary teacher trainees in their means scores of U-learning awareness with reference to computer knowledge, internet skills, e-learning

Dimensions	Category				't' value	Remarks at 5% level
	Below 23 (N = 168)		Above 23 (N = 132)			
	Mean	SD	Mean	SD		
a. Computer Knowledge	7.80	1.45	7.82	1.40	0.17	NS
b. Internet Skills	4.57	3.09	4.80	3.29	0.60	NS
c. e-learning Awareness	6.63	1.52	6.48	1.40	0.91	NS
d. m-learning Awareness	6.90	1.52	6.51	1.78	1.94	NS
e. u-learning Knowledge	9.41	2.34	9.30	2.19	0.41	NS
f. Total	35.16	6.37	34.94	6.05	0.31	NS

(At 5% level of significance, the table value of 't' is 1.96)

Table 1. Difference between the mean scores of B.Ed., trainees in their u-learning awareness with respect to Age

awareness, m-learning awareness, u-learning knowledge and in total (Table 1).

There is no significant difference between married and unmarried secondary teacher trainees in their means scores of U-learning awareness with reference to computer knowledge, internet skills, e-learning awareness, m-learning awareness and in total. But there is significant difference between married and unmarried secondary teacher trainees in their means scores of U-learning awareness with reference to u-learning knowledge (Table 2).

There is no significant difference between arts and science group secondary teacher trainees in their means scores of U-learning awareness with reference to internet skills, e-learning awareness, m-learning awareness, u-learning knowledge and in total. But, there is significant difference

Dimensions	Category				't' value	Remarks at 5% level
	Married (N = 75)		Unmarried (N = 225)			
	Mean	SD	Mean	SD		
a. Computer Knowledge	7.87	1.42	7.80	1.43	0.39	NS
b. Internet Skills	4.24	3.24	4.81	3.15	1.33	NS
c. e-learning Awareness	6.48	1.14	6.59	1.56	0.66	NS
d. m-learning Awareness	6.61	1.63	6.76	1.66	0.69	NS
e. u-learning Knowledge	9.95	1.74	9.17	2.40	3.03	S
f. Total	35.01	5.29	35.08	6.52	0.09	NS

(At 5% level of significance, the table value of 't' is 1.96)

Table 2. Difference between the mean scores of B.Ed., trainees in their u-learning awareness with respect to marital status

Dimensions	Category				't' value	Remarks at 5% level
	Arts (N = 86)		Science (N = 214)			
	Mean	SD	Mean	SD		
a. Computer Knowledge	7.36	1.74	7.99	1.24	3.07	S
b. Internet Skills	5.13	3.37	4.49	3.08	1.53	NS
c. e-learning Awareness	6.28	1.73	6.68	1.34	1.92	NS
d. m-learning Awareness	6.72	1.47	6.73	1.72	0.04	NS
e. u-learning Knowledge	9.05	2.39	9.49	2.22	1.49	NS
f. Total	34.5	7.03	35.2	5.88	0.86	NS

(At 5% level of significance, the table value of 't' is 1.96)

Table 3. Difference between the mean scores of B.Ed., trainees in their u-learning awareness with respect to Group

between arts and science group secondary teacher trainees in their means scores of U-learning awareness with reference to computer knowledge (Table 3).

There is no significant difference between rural and urban area B.Ed., college trainees in their means scores of U-learning awareness with reference to computer knowledge, internet skills, e-learning awareness, m-learning awareness, u-learning knowledge and in total (Table 4).

There is no significant association between u-learning awareness of secondary teacher trainees and their parents' income in terms of computer knowledge, internet skill, e-learning awareness, and u-learning knowledge. But there is significant association between u-learning awareness of secondary teacher trainees and their parents' income in terms of m-learning (Table 5).

Interpretations

According to the 't' test results

Age

The 't' test reveals that there is no significant difference between above 23 age group and below 23 age group trainees in their u-learning awareness. This may be due to the fact, that today all pupils have proper education in all

Dimensions	Category				't' value	Remarks at 5% level
	Rural (N = 179)		Urban (N = 121)			
	Mean	SD	Mean	SD		
a. Computer Knowledge	7.75	1.54	7.89	1.24	0.86	NS
b. Internet Skills	4.74	3.20	4.57	3.15	0.45	NS
c. e-learning Awareness	6.61	1.57	6.49	1.31	0.76	NS
d. m-learning Awareness	6.63	1.63	6.87	1.67	1.21	NS
e. u-learning Knowledge	9.22	2.46	9.57	1.96	1.36	NS
f. Total	34.91	6.62	35.2	5.61	0.53	NS

(At 5% level of significance, the table value of 't' is 1.96)

Table 4. Difference between the mean scores of B.Ed., trainees in their u-learning awareness with respect to locality of the college

Dimension	Parents income	Low		Average		High		df	χ^2 value	Result
		Ob	Ex	Ob	Ex	Ob	Ex			
a. Computer Knowledge	<15000	30	29	150	146	40	44	2	1.76	NS
	>=15000	10	11	50	53	20	16			
b. Internet Skills	<15000	25	27	145	137	35	41	2	4.66	NS
	>=15000	15	13	55	63	25	19			
c. e-learning Awareness	<15000	40	47	120	113	40	40	2	4.50	NS
	>=15000	30	23	50	57	20	20			
d. m-learning Awareness	<15000	38	46	122	111	35	39	2	8.06	S
	>=15000	32	25	48	60	25	21			
e. u-learning Knowledge	<15000	29	29	149	144	38	43	2	2.31	NS
	>=15000	11	11	51	53	22	17			

(At 5% level of significance, the table value of χ^2 is 5.99)

Table 5. Chi-square Value of U-learning Awareness of Secondary Teacher Trainees in Terms of Parents Income

aspects. Particularly in Tamilnadu all students are well educated and they are aware of the importance of technological world. Every child is an expert in using mobile phone and other electronic things.

Marital Status

The 't' test result shows that, married are better than the unmarried B.Ed., trainees in their u-learning awareness by u-learning knowledge. This may be due the fact, that married trainees have some opportunity to learn technological instrument with his/her life partner.

Group

The 't' test result shows that, science trainees are better than the arts trainees in their u-learning awareness by computer knowledge. This may be due the fact that, basically technology is a science subject. Science students would have the opportunity to get the awareness of technological instruments than the arts students. They have ample opportunity to interact with the society through technology.

Locality of the college

The 't' test reveals that there is no significant difference between rural and urban area college trainees in their u-learning awareness. It may be due the fact, that all the B.Ed., colleges having well equipped computer laboratory and other infrastructure. In B.Ed., Curriculum, one core paper is related to Educational Innovation. So there is an opportunity to learn the entire technological instrument.

According to χ^2 test results

Parent's income

There is no significant association between parental income and u-learning awareness in terms of computer knowledge, internet skill, e-learning awareness, and u-learning knowledge among secondary teacher trainees. This may be due to fact that mostly fathers are engaged in various household and office works. Even though they educated they could not spend much time with their wards. This may be due to the fact that usually father takes less care about the students' progress in studies. Also it is a fact that fathers find it difficult to spend sufficient time with their children.

There is significant association between fathers' education

and u-learning awareness in terms of m-learning awareness among secondary teacher trainees. This may be due to the fact that most of the fathers bought the cell phone and gave it to their children. Children spent more time in home with mobile phones. So the B.Ed., trainees have the awareness of mobile learning.

Educational Implications of the Study

Out in the classrooms and lecture theatres, data projectors have being introduced and packages like PowerPoint are being used to present directly through a computer rather than to create and print overhead project transparencies (www.netlibrary.com, 2010). The setups have often been unreliable and under supported and there has been a lack of technical confidence among lecturers and it is only within the last few years that this has started to change. Other presentation technology such as electronic whiteboards, audience feedback systems and videoconferencing facilities are beginning to appear in teaching spaces (Rohit Anand, 2005).

Learning is mobile in terms of space. It happens at the workplace, at home, and at places of leisure. It is mobile between different areas of life. It may be related to work demands, self-improvement, or leisure. And it is mobile in terms of time, i.e. it happens at different time periods, on working days or on weekends (Starkman, Neal, 2007). M-learning is learning supported by mobile devices and intelligent user interfaces. Compared to the prior generation a few years ago, storage capacity and screen size of mobile devices as well as transfer speed of wireless connections have significantly increased. Equipped with mobile devices, learners can conduct learning activities at anytime anywhere (Wutoh, Rita; Boren, Suzanne Austin; Balas, & Andrew, 2004) (Source from www.scre.ac.uk/is/webjournals.html). U-learning is learning that is not constrained to a physical space or specific time and learning that is supported by communication with embedded computing elements in the environment on every move of the learner (Rachna Rathore, 2009).

The authors shared belief is that in the future mobile phones will be a powerful learning tool integrated in the learning process. Meanwhile, mobile phones are used to communicate, take pictures and video clips, send e-mails,

texts and graphics, browse the web, play games and download programs (Sanjaya Mishra & Ramesh Sharma, 2005). In learning settings, they can be used as communication, content input/output, computing devices, and educational mobile Web Service providers.

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