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Ubiquitous learning among university students: An analysis on gender difference

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Abstract
The evolution of computers and technologies has accelerated the development of smart learning environments. In the past decade, the popularity of laptops, personal digital devices, mobile phones, digital cameras, e-books, PDAs (personal digital assistants) have changed the learning culture. Handhelds provide flexible and easy access to learners, as they can use these devices anywhere, anytime for learning regardless of their geographical location. Internet use is spreading rapidly into daily life, and directly affecting people's ideas and behaviour. This changed learning pattern has an impact in many areas including the higher education system. Learning heralded the development and implementation of new and innovative teaching-learning strategies in higher education institutions. U-learning has become a way of life for the majority of higher education students all around the world now days. For most students the advanced technology is a functional tool, one that has greatly changed the way they interact with others and with information as they go about their studies. In u-learning environments, students use computers and wireless gadgets to accomplish a wide range of their academic tasks. Students' perceptions based on their gender differences affect their learning performance. Male and female students experience online environments differently in several ways, including performance, motivations, perceptions, study habits, and communication behaviours. Thus, this paper is focused on gender differences in ubiquitous learning among male and female university students. The paper also examines the Internet usage of university students with respect to their gender.

Keywords: ubiquitous learning, U-learning, ubiquitous computing

Introduction

Ubiquitous learning, also known as U-learning which takes place anywhere at any time is based on ubiquitous technology. Ubiquitous learning is an emerging term and associated area of study that refers to a "new educational paradigm made possible in part by the affordances of digital media" (Cape and Kalantzis 2008) [9]. Digital technologies are permeated in our routine activities; whether we are at work and during our personal engagements. Innovative technologies have brought powerful and transformative tools, which are improving on our quality of lives (Fullan 2013; Fullan and Smith 1999; Prensky 2001, 2005) [6, 7, 18]. The development of information and communication technologies has provided numerous opportunities for teachers and users to promote motivation, participation and personalized learning among learners (Cornelius & Shanks, 2017). Additionally such technologies enhance the flexibility of time and place in the teaching and learning activities that provide with instant access to learning materials anytime and anywhere (Motiwalla, 2007). Looney, Jessup, and Valacich (2004) [12] explored that the ubiquitous nature of smart technologies provide with flexibility, exceptional efficiency, and convenience, thereby influencing their satisfaction. In addition, omnipresence is one of the most well-known advantages of smart technologies and a main reason for the adoption of smartphones by many users. (Dholakia, Dholakia, Lehrer & Kshetri. 2004) [5]. Lee and Lee (2009) [10] contended that u-learning can increase learner satisfaction through ubiquitous characteristics which innovative learners seek from new technologies. Jackson *et al.* (2001) [8] analysed that women are more prone to computer nervousness, are less effective in terms of handling computer and have unfavourable attitudes towards using computers. However, he explored that women use emails more than men do whereas men use Web more than females. Li & Kirk up (2007) surveyed on 220 Chinese and 245 British students and concluded that in both the countries, males tend to use more emails and "chat" rooms than women. In addition, men are more confident on their computer skills and play more games on computer, than women. However, comparatively the gender inequality is stronger in the British group than in the Chinese one.

By surveying 200 undergraduate students to understand, the acceptability of Virtual Learning Environment (VLE) Milis *et al.* (2008) [15] observed that women found the new system to be complicated and learning of the new technology widely relied on perceived usability.

Raman *et al.* (2014) [20] analysed 65 postgraduate students in Malaysia with respect to the use of Moodle and declared that the gender does not influence Effort Expectancy (EE), Performance Expectancy (PE), and Social Influence
(SI) towards Behavioural Intention (BI).

Suri and Sharm (2013) [21] in their study surveyed 477 students and terminated that no gender difference exists in attitudes towards e learning.

Nysveen *et al.* (2005) [17] concluded that social influence has a greater impact in using mobile chat services on females. NingShen and Khalifa (2010) [16] declared that during learning, activities like to "solve problem", to "get information", and "generate ideas" all exhibit gender differences. In addition, the study suggests that women are more likely than males to use Facebook in their learning.

Significance of the Study

It can be clearly observed from the literature review, that mixed results with respect to gender difference on technology adoption are there. Although in few contexts, gender plays a significant role in determining the intention of accepting new technology, there are cases where gender differences cannot be anticipate. In the context of using Information Technology, which includes computers, electronic data management systems, email services, etc., gender acts as an important factor in technology adoption as women found to be less technologically adept as compared to men. On the contrary, in the fields of mobile/electronic commerce, men and women are found to be equally using online shopping apart from men women are more influenced towards consumer reviews. Cuadrado-Garcia *et al* (2010) stated that perception of users' maybe affected by different factors, like age and gender. In addition, Adamus, Kerres, Getto and Engel hard t (2009) [1] pointed that usually men use computer technologies and internet. Therefore, the purpose of this study is to gain further knowledge about how gender is associated with ubiquitous learning among university students. Thus, keeping in the view this paper will study whether gender differences makes a significant difference in ubiquitous learning among the university students. Their usage of internet is also studied.

Research Objective

The main objective of the present study was to explore the gender difference in ubiquitous learning among university students.

To study the usage of internet by university students.

Hypotheses

After converting, the objectives in terms of hypotheses would emerge as probable to be tested for their statistical significance.

Gender difference will not play a significant role in ubiquitous learning.

Research Tools

The following scale was used for Testing

1. Ubiquitous Learning Scale (ULS) constructed and standardized by the Investigator.

Method and Procedure

Two universities of Kerala, Randomized subjects, were adopted to execute the study. Two of the universities were selected randomly by drawing a lottery from the list of UGC approved universities in South Region of Kerala. Ubiquitous Learning Scale (ULS) was distributed to 300 postgraduate students among two universities .i.e. Mahatma Gandhi University (MGU) Kottayam and Kerala University (KU) Thiruvananthapuram. Out of 300, 267 responses were recorded and results were interpreted as follows.

Table 1

Name of University	No. of male students	No. of female students	Total
MGU Kottayam	47	101	148
KU Thiruvananthapuram	25	94	119
Total	72	195	267

Analysis and Interpretation

For conducting this study, Ubiquitous Learning Scale was applied on 267 postgraduate university students. To find out the type of distribution of data Mean, Median, Mode, S.D., Kurtosis and Skewness were computed and results have been presented in table 1.2

Table 2: Frequency Distribution for Scores of Ubiquitous Learning Scale

N	267
Mean	93.84
Median	94
Mode	93
Standard deviation	24.07
Kurtosis	0.55
Skewness	-0.35

Table 1.2 shows that the mean of ULS is 93.84 with median of 94 and standard deviation of 24.07. As the values of mean, median and mode are nearly the same, it is evident from frequency distribution that the distribution of data is normal. The value of kurtosis is 0.55 and value of Skewness is found to be -0.35.

Further, to proceed for the investigation, the scores obtained were analysed and t-test was applied to know the significant difference of gender.

Table 3: Showing comparison between ubiquitous learning with respect to gender

Variable	Groups	N	Mean	SD	t-value
Ubiquitous Learning	Male	72	95.10	25.11	0.52
	Female	195	93.38	23.73	

Table 1.3 reveals that mean scores of ubiquitous learning among male and female subjects were 95.10 and 93.38 respectively. It was further observed that standard deviation of male and female for ubiquitous learning was found to be 25.11 and 23.73 respectively. The calculated t-value of ubiquitous learning among male and female subjects found to be 0.52. The table value at 0.05 level of significance was found to be 1.65. Thus the proposed hypothesis that stated "Gender difference will not play a significant role in ubiquitous learning" was accepted. So, this can be concluded that no significant difference exists between ubiquitous learning of male and female university students.

Internet Usage among University Students

Table 4: Gender wise Respondent's Frequency of Internet Usage among University Students

Gender	More than 8 hours a day	More than 4 hours a day	More than 2 hours a day	Total
Male	8 (11.11)	33 (45.83)	31 (43.05)	72
Female	19 (9.74)	90 (46.15)	86 (44.10)	195
Total	27	123	117	267

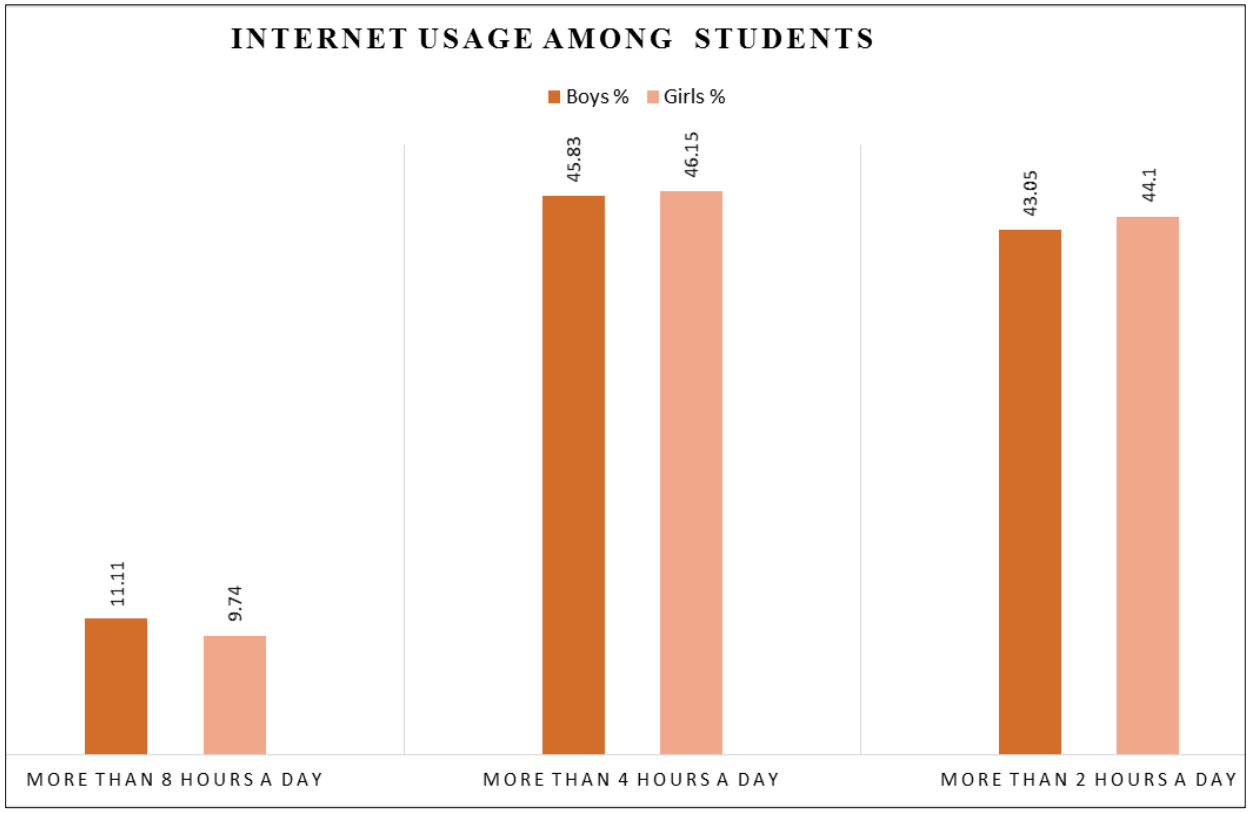

Fig 1

Data presented in table1.2 indicates the gender wise respondents' frequency of usage of internet among university students. It could be noted that majority of both male (45.83%) and female (46.15) student respondents use internet more than 4 hours a day, whereas, 43.05% male and 44.1% female student respondents use more than 2 hours a day. It could be seen clearly from the above discussion that majority of the male and female respondents use More than 4 hours a day.

Conclusions

Based on quantitative analysis of data following conclusions have been reported.

1. The internet usage among male and female university student is almost equal.
2. Gender difference does not play a significant role in ubiquitous learning.

Limitations

All research studies have some inherent limitations. Although this research is carefully prepared, still the investigator is aware of its limitations, which are as follows:

1. The study was confined to university students only.
2. Selecting students of postgraduate, which might have affected uniformity in output.
3. The study was focused on the gender difference among university students only.

Suggestions

Every research work has scope to explore more dimensions, which can be carried out with many techniques and by making associations with many areas and variables. Following suggestions have been made by the investigator which can be helpful for conduction of research in a similar area:

1. The present study was conducted at university level. The may be replicated at college students or on different school levels.
2. Two variables or different variables other than ubiquitous learning can also be taken for further studies.

References

1. Adamus T, Kerres M, Getto B, Engelhardt N. Gender and e-tutoring – A concept for gender sensitive e-tutor training programs, 2009. Retrieved July 22, 2011 from http://www.informatik.unibremen.de/soteg/gict2009/proceedings/GICT2009_Adamus.pdf.
2. Cornelius S, Shanks R. Expectations and challenges: the implementation of mobile devices in a Scottish primary school. Technology, Pedagogy and Education, 2016:26(1):19-31. doi:10.1080/1475939x.2016.1153513
3. url to share this paper: sci-hub.se/10.1080/1475939X.2016.1153513
4. Cuadrado-García M, Ruiz-Molina ME, Montoro-Pons JD. Are there gender differences in e-learning use and assessment? Evidence from an Inter university online project in Europe. Procedia Social and Behavioral, Sciences, 2010:2:367-371.
5. Dholakia N, Dholakia R, Lehrer M, Kshetri N. Patterns, opportunities, and challenges in the emerging global m-commerce landscape. In N. Shi (Ed.), Wireless communications and mobile commerce Singapore & Hershey PA: Idea Group, 2004, 121.

6. Fullan M. Stratosphere: Integrating technology, pedagogy, and change knowledge. Don Mills, Canada: Pearson, 2013.
7. Fullan M, Smith G. Technology and the problem of change, 1999. http://www.michaelfullan.ca. Articles_98-99/12_99. Pdf. Accessed March 10, 2014.
8. Jackson LA, Ervin KS, Gardner PD, Schmitt N. Gender and the Internet: Women Communicating and Men Searching. Sex Roles: A Journal of Research,2001:44:363-379. http://dx.doi.org/10.1023/A:1010937901821
9. Kalantzis M, Cope B. New learning: Elements of a science of education. Cambridge, Victoria, Australia: Cambridge University Press, 2008.
10. Lee DM, Lee SH. The effects of ubiquitous attributes of the u learning on Learners' Interactivity and Learning Performance. Journal of Business Research, 2009:24(1):33-68.
11. Li N, Kirk up G. Gender and Cultural Differences in Internet Use: A Study of China and the UK. Computers and Education,2007:48:301-317.http://dx.doi.org/10.1016/j.compedu.2005.01.007
12. Looney CA, Jessup LM, Valacich JS. Emerging business models for mobile brokerage services. Communications of the ACM,2004:47(6):71-77. doi:10.1145/990680.990683
13. Moti walla LF. Mobile learning: A framework and evaluation. Computers & Education, 2007:49(3):581-596. doi:10.1016/j.compedu.2005.10.011
14. url to share this paper: sci-hub.se/10.1016/j.compedu.2005.10.011
15. Milis K, Wessa P, Poelmans S, Doom C, Bloemen E. The Impact of Gender on the Acceptance of Virtual Learning Environments. KU Leuven Association, Belgian, 2008.
16. Ning Shen K, Khalifa M. Facebook usage among Arabic college students: Preliminary findings on gender differences. Proceedings of the 9th International Conference on Electronic Business Macao, P. R. China 2010, 1080 -1087.
17. Nysveen H, Pedersen PE, Thorbjernsen H. Explaining Intention to Use Mobile Chat Services: Moderating Effects of Gender. Journal of Consumer Marketing,2005:22:247-256. http://dx.doi.org/10.1108/07363760510611671
18. Prensky M. Digital natives, digital immigrants part 1. On the Horizon,2001:9(5):1-6. doi:10.1108/10748120110424816
19. Prensky M. Computer games and learning: Digital game-based learning. Handbook of Computer Game Studies, 2005:18:97-122.
20. Raman A, Don Y, Khalid R, Rizuan M. Usage of Learning Management System (Moodle) among Postgraduate Students: UTAUT Model. Asian Social Science, 2014:10:186-195.http://dx.doi.org/10.5539/ass.v10n14p186
21. Suri G, Sharma S. The Impact of Gender on Attitude towards Computer Technology and E-Learning: An Exploratory Study of Punjab University, India. International Journal of Engineering Research,2013:2:132-136.