ASSESMENT OF UNDERGRADUATE ATTITUDE TO AND UTILISATION OF MOBILE TECHNOLOGIES FOR LEARNING IN LAGOS-STATE

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Abstract
Mobile technologies are any device(s) that one can carry along to perform wide variety of tasks these includes cellular phones and smartphones. It motivates undergraduate student to learn, inspire self-confidence and stimulate students for effective learning. In spite of the benefits of mobile technology in higher institution, these technologies has not been effectively explore for learning by undergraduates students in Nigeria, thus; objective of this study were to; identify the type of mobile technologies used by undergraduate students for learning in Lagos-state; examined influence of male and female undergraduate student's attitude towards the use of mobile technologies for learning in Lagos state ; determined the influence of undergraduate students' attitude towards the use of mobile technologies for learning based on proprietorship . The study employed a descriptive research of the survey type. A total of 298 (173 males, 123 females) undergraduates' students were randomly sampled from two selected universities in Lagos state (University of Lagos and Lagos state university). Two research questions were answered using mean and percentage while independent t-test were used to test the research hypotheses at 0.05 level of significance. The study concluded that Androids Phone is the most used mobile technologies by undergraduate students in Lagos State and undergraduate's undergraduates' students used mobile technologies for learning irrespective of their gender and proprietorship. The implication is that mobile technologies can enhance students learning without gender bias.

Key words: Mobile Technology, ICT, Gender, Assessments

Introduction

Mobile technologies is referred to any device(s) that one can carry along to perform a wide variety of "tasks" such as cellular phones, IPOD, Ipad, Personal Digital Assistance (PDA), laptops, and smart phones Mobile Technology Association of Michigan (MTAM, 2014). Mobile technology according to Wikipedia (2011) is defined as the technology used for cellular communication. These mobile technologies are "small, self-directed and modest enough to go with at every moment in our every-day life, and it can be used for some form of learning". Mobile technologies if used for learning will move more and more outside the classroom and into the learner's environments, both real and virtual, thus becoming more situated, personal, collaborative and lifelong (Lonsdate, Baber, Sharples, & Arvanitis, 2003).

Mobile technologies are very helpful and useful to man in many different ways, for example, Trifonova and Ronchetti, (2008) mentioned that it allowed interaction with people via voice and through the exchange of written messages, still and moving images. They are good devices for evaluating content, which can be stored locally on the device or can be reached through interconnection. These technologies are good and they can help provide solution to many of the day-to-day activities, it motivates undergraduate student to learn, it inspires self-confidence and it also helps the students in the areas of mathematics and science. The implication of this is that mobile technologies can be used by students to access content of coursework and kept for reference purpose (Trifonova & Ronchetti, 2008).

Mobile technologies in this 21st century are much more than just cell phones. The capability of using mobile technologies can be seen in the following sectors: it can be used to manage transportation and

logistics, enable security and public safety systems, provide healthcare services, increase productivity in industrial/manufacturing environments, manage the mechanical systems of commercial and industrial buildings, and increase consumer convenience through mobile commerce and much more. In fact, in the midst of a paradigm shift is the way businesses are operated and consumers manage their personal and work lives (MTAM, 2014).

As a result, mobile technologies have literally saved lives. Consider that mobile technologies are commonly used in the medical industry to enhance and simplify how things are to be done and carried out. Through phone calls, SMS messaging, mobile internet browsing and many more avenues, undergraduate students can stay connected as a society and keep in touch both in times of relaxation and in times of need. Mobile technologies have truly touched the lives of millions of people (Chris, 2012).

The development of mobile technologies, wireless communication and network technologies have been extremely advanced. Their integration can enlarge technologies as a part of campus environment for teachers and students to use (Weiser, 1998). Mobile technologies enable the teacher and students to utilize computing power anytime and anywhere, while the internet and wireless technologies enable mobile devices to interconnect with other computing devices seamlessly thereby making the undergraduate students to utilize it for learning.

Learning with mobile technologies means to use the technologies as cognitive tools to create constructivist learning environment. Moreover, researches have shown that the learning process might be changed as an effect of predominant media being used, technology or media is being evaluated successfully as type of cognitive tool (Kenny, 2001). Therefore, mobile technologies can play an influential role in improving the learning performance of the undergraduate students. It is apparent that media does play an important role in the design of an instructional method because technology can make a ready learning resources for learner oriented and interactive environment in a less expensive way (Ayonote-Yusuf, 2012).

An empirical study suggested the advantages of using these technologies and mobile devices in learning environments, which include enhancing availability and accessibility of information by students in learning activities in diverse physical locations, supporting group work on projects, and enhancing communication and collaborative learning in the classroom (Gay, Stefanone, Grace-Martin, & Hembrooke, 2001; Goldman & Kaufman, 2001). Mobile phones have positively contributed to the field of learning in many different ways. First, mobile phones help undergraduate students (learners) to improve their literacy and expertise skills, to identify their present abilities and it can be used to encourage both independent and collective learning experiences between peers (Attewell, 2005).

Also, mobile phones help learners to identify areas where they need help and support. Attewell, further reiterated that mobile phones helps bridge the gap between mobile phone literacy and ICT literacy. Moreover, it helps to remove some of the formality from the learning experience and engages unwilling learners. Besides, it helps learners to remain more focused for longer periods. Ultimately; it helps to raise self-esteem and self-confidence (Attewell , 2005). Mobile phones makes the students have more exposure and also helps reduce the fear towards the use of ICT thereby developing skills that will enable the learner to apply their knowledge to explain phenomena happening around them and to solve problems.

Assessment on utilization of mobile technologies for learning was considered for the purpose of this study. The word assessment comes from a root word assess which means determining the amount of something, or to determine the importance of someone or something (Merriam-Webster Online Dictionary, 2005). To determine the level to which undergraduate students use their mobile technologies for learning, variable such as attitude, gender, and school proprietorship were considered. Attitude is an important variable to be considered as to how undergraduate students use their mobile technologies for learning. Admittedly, the approach of students towards the use of these technologies for learning is important. Yusuf (1998) affirmed that attitude is the regulator of actual behavior of an individual either consciously or unconsciously.

Little-john (2002) also described attitude as a built up of information about an object, person, situation or experience, or a disposition to act in a positive or negative way toward some object. From this theorist, attitude that students put on towards using any of the mobile technologies for learning play a very important role in influencing subsequent behavior towards it. (Meneal & Hooft, 2011) researched on the

attitude of students towards the use of mobile phone in learning. It was discovered that a good number of the students responded that mobile technology devices such as mobile phone have assisted their overall learning process, helps to plan better for learning, and enables learners to be more productive compared to those who gave a neutral and negative response. From the findings, it can be deduced that positive attitude on the part of the students is important if learning with mobile technologies is to be effective (Meneal & Hooft, 2011).

However, no matter how positive the attitude may be, variable such as gender needs to be considered. Gender is an important variable that influence the use of computer and mobile technologies for learning. Ajunwa (2004) found out that gender disparity in ICT favours the male. A study conducted by Liu (1999) has revealed that females show negative attitude to computer than male. Also, studies conducted by (Lenhart & Madden, 2005; Odell, 2000; Sherman, End, & Kraan, 2000) suggested that men and women use these technologies in different ways.

Increased gender inequalities, even in the short-run, are having long-term consequences for economic growth and human development (Costa & Silva, 2008). Thus it is not surprising that one of the key target objectives of the Millennium Development Goals (MDGs) is the promotion of gender equality and women's empowerment. The goal of MDGs tends towards avoiding gender bias but bringing equality in between them. Further, Ramayah and Osman (2005) revealed that male students use the course websites more than female students and the fact remains that the length of time spent in an environment or job will definitely affect learning.

Another important factor to be considered is school proprietorship. School proprietorship in this context could be regarded to as the owners of school which include the private school owned by an individual, a body or an organization, the state school owned by the state government, and the federal school owned by the federal government. Stakeholders in education have looked at issues regarding school ownership as an important factor that affect learning activities which in turn affect the performances of students. School proprietorship can be viewed in three different perspectives such as the state school, the private school and the federal school. Oke and Maliki (2009) described the state school to mean any school that is controlled and supported by the state or the national government. The private school is a school that is supported by the religious, social organizations, other private groups or individuals while the federal school is a school that is supported or controlled by the federal government.

Maliki, Ngban and Ibu (2009) postulated that there is a widely held assessment that the undergraduates' students in the private schools performs better than those in the federal, while those in the federal schools do far better than their colleagues in the public schools across the globe. On the school proprietorship and performance, it can be deduced that students from private school often perform better than their colleagues in the federal and public schools.

From the discussion so far, it can be deduced that mobile technologies can go a long way to affect the learning outcome of most undergraduate students if only they can effectively show a positive attitude to and utilize the technologies to source and access scholarly materials available and that are relevant to every discipline regardless of location, time and the number of people accessing the materials. However, the contribution of this study to the field of education cannot be underestimated in Nigeria. The outcome of this study will provide additional knowledge; hence, the need for this study, assessment of undergraduate student's attitude to and utilization of mobile technologies for learning in Lagos State, Nigeria.

Research Objective

The purpose of this study was to assess undergraduates' attitude to and utilization of mobile technologies for learning in Lagos state, Nigeria.

Research Questions

The following research questions were answered in this research:

1. What type of mobile technologies do undergraduate students use for learning?
2. How does undergraduates' attitude influence the use of mobile technologies for learning based on gender?
3. How does undergraduates' attitude influence the use of mobile technologies for learning based on proprietorship?

Research Hypotheses

Based on research questions two to four, the following null hypotheses were formulated and tested in this study:

H_{O1}: There is no significant difference in undergraduate students' use of mobile technologies for learning based on gender.

H_{O3}: There is no significant difference in undergraduate student's attitude towards the use of mobile technologies for learning based on school proprietorship.

Methodology

The study was a descriptive research using survey design. This method enabled the researcher to describe events just as they appear without the manipulation of external researchers. The target population consisted of all undergraduate students in two Universities in Lagos State namely: University of Lagos and Lagos State University. The sample size was all undergraduate students from the chosen Universities. Simple random sampling technique was used to select 258 undergraduates from the sampled Universities while Israel model (2013) was used to determine the sample size of the respondents used for the study.

The instrument for this study was a researcher's designed questionnaire and it was validated by the researcher's supervisor and three educational technology lecturers in the Department of Educational Technology, University of Ilorin, reviewed the questionnaire in order to determine the appropriateness, content coverage in terms of acceptability, adequacy and relevance to the stated objectives. Their comments, suggestions and corrections were used to produce a final draft of the instrument. The reliability of the questionnaire used in this study was achieved by administering twenty copies of the questionnaire on twenty undergraduate students in University of Ilorin, Ilorin, Nigeria which was not part of the sampled institutions. Cronbach alpha was used to test the reliability of the instrument at 0.71. The researcher personally administered 300 questionnaires to the respondents and was able to collect only 296 that is, 98% from the respondents. The collected data were analyzed using descriptive and inferential statistics. Percentage, mean, and t-test were used to analyze data for the research questions and hypotheses with the aid of statistical package for social science (SPSS) version 20.0 at 0.05 level of significant.

Results

Research Question One: *What type of mobile technologies do undergraduate students use for learning?*

Table 1:
Most Commonly used Mobile Technologies by Undergraduate Students in Lagos State.

S/N	Mobile Technologies	No of Respondents (Users)	No of Respondents (Non - Users)
1	Laptop	178 (60.1%)	118 (39.9%)
2	Tablet	45 (15.2%)	251 (84.8%)
3	Ipad	22 (7.4%)	274 (92.6%)
4	Ipod	9 (3.0%)	287 (97%)
5	PDA	2 (0.7%)	294 (99.3%)
6	Blackberry	122 (41.2%)	174 (58.8%)
7	Android	199 (67.2%)	97 (32.8%)
8	Iphone	6 (2%)	290 (98%)

Table 1, reveals that Android phones has the highest number of users among the mobile technologies used by undergraduate students with 199 (178%) users, followed by Laptop with 178 (60.1%) users, Blackberry with 122 (41.2%) users, Tablets with 45 (15.2%) users, Ipad with 22 (7.4%) users, Ipod with 9 (3.0%) users, Iphone with 6 (2%) users and PDA with 2 (0.7%) users, which is the least used among the mobile technologies. Therefore, based on the figure in table 6, it can be deduced that Android phone is the most commonly used mobile technologies by undergraduate students in Lagos State.

Hypothesis Testing

The following hypotheses were tested:
Hypothesis One:

H_{01}: *There is no significant difference in male and female undergraduate students' attitude towards the use of mobile technologies for learning in selected Nigerian Universities*

Table 2:
Independent Sample t-test on Undergraduate Students Attitude towards the Use of Mobile Technologies for Learning based on Gender

Gender	N	Mean	SD	T	df	Sig. (2-tailed)	Remarks
Male	173	33.77	3.74	0.07	294	0.95	Not Rejected
Female	123	33.74	3.75				
Total	296						

From Table 2, it can be deduced that there was no significant difference between male and female undergraduate student's attitude towards the use of mobile technologies for learning. This is reflected in the result: t (294) = 0.07, p > .05. That is, the result of t-value of 0.07 resulting in .95 significance value was greater than 0.05 alpha values. Thus, the hypothesis was accepted. This implies that there was no significant difference between male and female undergraduate student's attitude towards the use of mobile technologies for learning.

Hypothesis Two:

H_{02}: *There is no significant difference in undergraduate students' attitude towards the use of mobile technologies for learning in selected Nigerian Universities based on school proprietorship*.

Table 3:
Independent Sample t-test on Undergraduate Students Attitude towards the Use of Mobile Technologies for Learning based on School Proprietorship

School Proprietorship	N	Mean	SD	T	Df	Sig. (2-tailed)	Remarks
Federal	159	34.16	3.45	1.99	294	0.05	Not Rejected
State	137	33.29	4.01				
Total	296						

According Table 3, t (296) = 1.99, p > .05. That is, the result of t-value of 1.99 resulting in 0.05 significance value was equal to 0.05 alpha values. This means that the null hypothesis is not rejected. By implication the stated null hypothesis was established thus: There is no significant difference in undergraduate students' attitude towards the use of mobile technologies for learning in selected Nigerian Universities based on school proprietorship. Based on the earlier mean score of undergraduate students' attitude, this means that both federal and state schools use mobile technologies for learning in Nigerian Universities.

Discussion

The results of the percentage of the type of mobile technologies undergraduate students use for learning gave a strong indication that undergraduate possess various mobile technologies and they are used for learning. The results of the findings established that Androids phone is the most commonly used mobile technology by undergraduate students in Lagos State. These findings agreed with the earlier findings of (Chris, 2012) whose findings indicated that mobile technologies are commonly used in the medical industry and in higher education to enhance and simplify how things are to be done and carried out. The findings also concur with the earlier findings of (Attwell,2005) whose findings indicated that mobile phones makes the students have more exposure and also helps reduce the fear towards the use of ICT thereby developing skills that will enable the learner to apply their knowledge to explain phenomena happening around them and to solve problems.

Results of the analysis related to influence of gender on undergraduates' attitude towards the use mobile technology revealed that no significant difference existed between male and female undergraduate student's attitude towards the use of mobile technologies for learning the results of the mean score also indicated that both male and female undergraduates' students attitude influenced the use of mobile technologies positively. The findings agree with the earlier findings of (Meneal & Hooft, 2011) whose findings revealed that positive attitude on the part of the students is important if learning with mobile technologies is to be effective. This findings contradict the earlier findings of Ajunwa (2004) whose findings indicated gender disparity in ICT favours the male. The findings also refute the previous findings of Liu (1999) whose findings revealed that females show negative attitude to computer than male. Also, inconsistent with studies conducted by (Lenhart & Madden, 2005; Odell, 2000; Sherman, End, & Kraan, 2000) whose findings suggested that men and women use these technologies in different ways .

The influence of undergraduates' attitude towards the use of mobile technologies based on their proprietorship indicated that both federal and state universities influenced undergraduates' attitudes towards the use of mobile technology positively and there was no significant difference in undergraduate students' attitude towards the use of mobile technologies for learning in selected Nigerian Universities

based on school proprietorship. The finding refute the earlier findings of Maliki, Ngban and Ibu (2009) whose study postulated that there is a widely held assessment that the undergraduates' students in the private schools performs better than those in the federal, while those in the federal schools do far better than their colleagues in the public schools across the globe.

Conclusions and Recommendations

The result obtained from the data gathered and analyzed in this study established the fact that all undergraduate students in Nigerian Universities used at least one or more mobile technologies and the most used mobile technologies by the undergraduate students for learning is Andriod phone. From the study, it is clear that undergraduate students from both the federal and state Universities showed a positive attitude towards the use of one or more mobile technologies for their learning. This implied that school proprietorship is not a barrier as to the use of mobile technologies for leaning in Nigerian Universities, it was recommended that female undergraduates are to redirect their focus on the use of mobile technologies towards learning and not for social media School proprietorship should encourage their undergraduate students not to allow the use of their mobile technologies to hinder their concentration in the classroom.

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