

EASY USAGE OF MOBILE DEVICES FOR TEACHING UNDERGRADUATES AS PERCEIVED BY LECTURERS IN KWARA STATE, NIGERIA

ABDULRAHMAN, Mohammed Rabiu

Department of Education Technology, Faculty of Education, University of Ilorin, Nigeria
abdulrahman4rabiu@gmail.com or abdulrahman.mr@unilorin.edu.ng

ADEROJU, Musiliu Adekola

Department of Education Technology, Faculty of Education, University of Ilorin, Nigeria
aderoju.am@unilorin.edu.ng

MUHAMMED, Shuaib Abolakale

Department of Counsellor Education, Faculty of Education, University of Ilorin, Nigeria
muhammadshuaib7@gmail.com or muhammed.sa@unilorin.edu.ng

Abstract

This study examined the perceptions of lecturers on integrating mobile devices for teaching undergraduates in Kwara state. Moderating influence of gender on the ease of use of mobile devices for teaching was also examined. Data were collected from 356 university lecturers from four Universities in Kwara State including Al-hikmah University, Kwara State University, Landmark University and University of Ilorin using a random sampling technique. Data were gathered using a researcher designed questionnaire tagged Ease of Use of mobile devices for teaching questionnaire and the data were analysed using mean to answer research questions and t-test was used to test the null hypothesis formulated. Findings were that lecturers perceived mobile devices easy to use for teaching with Grand Mean of (2.47). Also there was no significant difference between male and female lecturers' perceived ease of use of mobile devices for teaching with t value of (354) and significant value of 1.07, $p > 0.05$ alpha level of significance. The implication is that mobile devices were found easy to use for teaching by lecturers, irrespective of gender. Therefore, lecturers should be encouraged to attend trainings, conferences and capacity building workshops in order to acquire skills on the use of Mobile Devices and other ICT tools for teaching.

Keywords: Perceived ease of use, ICT, Mobile devices, Mobile Learning

Introduction

Mobile Learning (m-learning) is a form of learning that involves the use of wireless devices wherever the learner is with unbroken transmission signals. These wireless devices include mobile devices such as smart phones, tablet computers, laptops and personal digital aids (PDAs). The definition of m-learning contains three key components which are mobility of technology, mobility

of learners and mobility of learning processes. Mobility of technology refers to the mobile nature of installed hardware and software that enable constant wireless internet connection. Mobility of learners is no longer attached to one or several learning site, and they can be mobile and learn at the same as long as the mobile devices are around. Mobility of learning is the result of mobility of both the technology and learners (El-Hussein & Cronje, 2010).

Mobile learning is also defined as the exploitation of ubiquitous hand-held technologies, together with wireless and mobile phone networks, to facilitate, support, enhance and extend the reach of teaching and learning. However, it has been widely recognized that mobile learning is not just about the use of portable devices but also about learning across contexts (Walker, 2006). Pea and Maldonado (2006) used the term wireless interactive learning devices (WILD), an acronym created at SRI International's Centre for Technology in Learning, to define technology that made it possible for learners to work at unique activities in ways that were previously impossible. Mobile learning can occur in the classroom, during an online course or anywhere. The learner does not even have to be at a predetermined location. It is not about the device, but about the connectivity, capabilities and experience. Access through mobile devices should be a choice and a part of the total learning environment (Brown, 2005).

Corbeil and Corbeil (2007) predicted that mobile learning would one day provide learning that was truly independent of time and place, facilitated by portable computer capable of providing rich interactivity, total connectivity and powerful processing. Keegan (2002) anticipated that mobile learning is a harbinger of the future of learning. The applications of mobile learning can be employed widely in high schools, colleges, universities and corporate learning as well as distance learning settings. Instructional designers and teachers need a solid theoretical foundation for mobile learning in the context of distance education and more guidance about how to utilize emerging mobile technologies and integrate them into their teaching.

Goh and Kinshuk (2006) summated that utilizing mobile devices in education is mainly considered as enhanced tools which can be categorized into six as; games and competition in learning, classroom learning, laboratory learning, field trip learning, distance learning and informal learning. Games and competition learning implies the use of phone-based games to improve students (especially primary and secondary schools) their spelling, reading and mathematics skills. Classroom learning enhances the use of mobile devices in the laboratory environment to support individual learning as well as collaborative learning". One example of classroom learning would

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be using mobile devices like smartphone to brainstorm, take quiz, and vote. Laboratory learning is similar to classroom learning but has data acquisition as extra function.

Distance learning uses mobile devices to support synchronous and asynchronous learning. An example is using videophone to deliver home education for students with severe physical impairment. Informal learning is enabled with context aware technologies. The setting of informal learning can include gallery, garden, aquarium, museum, and so on.

The difference between m-learning and traditional classroom learning cannot be over emphasized. M-learning is learner-centered as opposed to classroom lecture-form of learning which is teacher-centered. The traditional forms of learning require learners to be present at a fixed location. Conventional e-learning enables learners from a distance with personal computer (PC) and internet connection to learn and interact with others online. However, the size and weight of PCs and internet availability is a limitation because learning process is tied to computers' location and internet access. Mobile devices solve this problem and promote learning anytime and anywhere (El-Hussein & Cronje, 2010). If m-learning could be achieved via the use of mobile devices in university campuses, students would most probably see it as a great advantage. Another advantage of m- learning technologies over conventional e- learning is the ability to incorporate context-awareness. Context-awareness involves having sensors in mobile devices such as smartphones, tablet computers among others that are capable of detecting the student learning behaviours in the real world and then stimulates more adaptive learning activities (Hwang, Wu & Chen, 2007).

Wenger and Snyder (2000) stated that there are two categories of mobile learning, which are also referred to as primary delivery strategies. Mobile learning can be in form of performance support system, which means using mobile devices to deliver performance support (PSS) or as communication that creates knowledge such as teaching through communication. M-learning performance support systems (PSS) are similar to traditional performance support services (PSS). M-Learning solutions integrate mobile devices to help users perform tasks such as providing information, guidance and learning experiences when and where they are needed. When users implore the cell phone to find a phone number, check the date and time or calculate, they experience m-learning as performance support.

On the other hand, when users call using a cell phone while travelling to ask expert's advice or send e-mails via Blackberry smartphones, iPods, tablet computers, among others during a class

meeting or asking for definitions or examples, they experience m-learning as communication that creates knowledge.

Perceptions on the ease of use play key roles in human functioning because it affects behaviour not only directly, but by its impact on other determinants such as goals and aspirations, outcome expectations, affective proclivities, and perception of impediments and opportunities in the social environment (Bandura, 1995, 1997). Cazares (2010) opined that users with low level of confidence are less likely to use technology and will typically believe that technology is difficult to use. Therefore, perceptions on the ease of use of technology of these set of people could be low. However, Claggett and Goodhue (2011) believed that the issue of confidence in respect to self-efficacy is quite different from skills and abilities individual have acquired to perform ICT related activities. Self-efficacy is a key determinant to one's perception and any kind of activity individual engages in, effort put in ensuring success in the activity and abilities possessed to face challenges when the need arises (Downey & McMurtrey, 2007). Fear of failure and lack of ICT knowledge formed some of the attitudes that led to the reasons why lecturers lack confidence of adopting and integrating ICT into their teaching (Balanskat, Blamire & Kefala, 2007).

Mudi (2013) investigated teachers' perceptions towards integrating mobile phones into teaching in public senior secondary schools in Federal Capital Territory, Abuja. 682 teachers were sampled using stratified random sampling techniques to generate information on their perception. The findings revealed that secondary school teachers have perceptions towards integrating mobile phone for teaching; there is no significant difference between male and female teachers on their perception; less, moderate and high experienced teachers have similar perceptions toward integrating mobile phones into Nigerian schools. However, there was significant difference in the perception of teachers with NCE, Bachelor degree and masters' degree holders with bachelor and masters degree teachers have high perception towards integrating mobile phone into school system.

Bamidele and Olayinka (2012) investigated teachers' perception of integrating the use of mobile phones into teaching in public senior secondary schools of Oyo and Lagos state, Nigeria. Four hundred and twenty-one teachers (220 in Oyo state and 201 in Lagos state) teaching in public senior secondary schools of Lagos and Oyo states were used as population sample. The findings showed that teachers use mobile phones for personal use but not willing to use for teaching. Also,

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teachers do not agree that, they may have phobia or anxieties if using mobile phones for teaching, reason being that they are already used to the device. If using mobile phones, performance of teachers could be commented on through feedback mode, also, students will never miss class as they have the lesson modules to download any day, anytime.

Oyinlola (2012) reported that a number of mobile devices were available for use by the students in the selected Universities, these include laptop, cell phone, MP3 and MP4 a lot of others. 94.6% of the students attested to the availability of laptop computers while 100% of the students owned and used a cell phone. 87.8% of the students confirmed that they have internet access through WIFI connection on their mobile phones.

Ayinde (2011) investigated the computer self-efficacy among teachers in primary, secondary and tertiary institutions in Niger State, Nigeria. Three hundred and twenty one (321) teachers were asked to indicate their experience and level of proficiency in the use of computer, The findings showed that, male and female teachers in secondary school have similar competence in the use of computer. Male primary school teachers were more proficient in the use of computer than their female counterparts. The female lecturers were more proficient in the use of computer than the male lecturers. This is contrary to Chukwuemeka (2010) findings which showed that the female teaches having inadequate proficiency skills in using internet for teaching and learning process.

Gambari, Gbodi and Yaki (2008) investigated lecturers' Internet level of competency in Nigeria Universities (A case study of Federal University of Technology (FUT) Minna, Niger state). One hundred lecturers, (50 male and 50 female) from FUT, Minna, Niger state participated in the study. Data were collected for the study through the administration of 10-item questionnaire. The data were analyzed using mean, standard deviation, t-test and one-way ANOVA in testing the hypotheses. The findings showed that male lecturers are more competent in using Internet than their female counterparts. Also, less experienced lecturers are more exposed to the use of internet than moderately and highly experienced lecturers. It was recommended among other things, that lecturers should be encouraged to acquire Internet skills; computers and Internet connectivity should be made available to lecturers; and old lecturers should be encouraged to develop and follow the new trends of technology in order to be relevant in this computer age.

Lecturers' attributes are also factors that contribute to the integration of mobile devices in education. Amongst these attributes is gender, teaching experience and area of specialization.

Gender is likely to have major implications for education and ICT in the future and in order to ensure good communication between lecturers and students, it is vital to have an understanding of how different groups may approach the use of ICT. Gender has been identified as one of the factors influencing lecturers' perception. Perceptions on integrating of mobile devices for teaching are issue to gender analysis and when observing communication habits, it is important to be aware of the different ways in which male and females view the mobile devices. Some studies have shown very significant differences in the use of ICT with regard to gender.

Leung and Wei (2000) revealed that men tend to use mobile devices as an instrument to do business (teaching included) while women tend to make social calls. In addition, Kolb (2008) also discovered that women have more attachment to their mobile devices like cell phones than men, especially to text messaging. Michaud (2009) identified that, there is a gender difference in technology adoption practices, there is also a gender difference in technology preferences. Females have a lower rate of use for audio and video creation and multi-user gaming than males, to the extent that two times as many males as females use video creation and multi-user gaming. However, Oyinlola (2012) revealed that, there is no significant difference in the perceptions of students based on their gender. This study therefore investigated easy usage of mobile devices for teaching undergraduates as perceived by lecturers in Kwara state, Nigeria. The major question raised in the study is: what is the perception of lecturers on the ease of use of mobile devices for teaching in Kwara State.

The following null hypotheses were also formulated to establish empirical evidence on the study.

H₀₁: *There is no significant difference between male and female lecturers in their perception on the ease of use of mobile devices for teaching*

Methods

The descriptive design of survey method was used in this study. The population for the study consisted of all lecturers of universities in Kwara state The universities sampled comprised University of Ilorin, Al-Hikmah University, Kwara State University Malete and Land mark University Omuaran.. Convenient sampling was used to select 356 lecturers from the four universities without preference for size or institution type. The instrument used for this study is a researcher's designed questionnaire entitled "Ease of Use of Mobile Device Questionnaire (EUMDQ)". The instrument consists of two sections. Section "A" elicits Bio-data information from the participants such as gender, and name of school. Section "B" elicits information on the

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“Ease of Use of Mobile Device by Lecturers” and it has twenty (20) items. Patterned after a Four-Point Likert Type scale format of: Strong Agree, Agree, Disagree and Strongly Disagree.

The instrument was validated by experts in Education Technology Department and Counsellor Education Departments in University of Ilorin. The reliability of the instrument was ascertained through test re-test method and the two set of scores obtained were correlated using the Pearson Product Moment Correlation Co-efficient (r) at 0.05 alpha level. The co-efficient (r) of 0.61 was obtained. This was considered high enough to make the instrument reliable.

In section “A” descriptive statistics was used to identify the percentage of participant in the study based on gender and schools while section “B” was scored using Four Point Likert Type scale which was quantified as follows: Very Often (VO) = 4 points Often (O) =3 points Not Often (NO) =2 points Not at All (NAA) =1 point. In determining the perception of lecturers on easy usage of mobile devices for teaching the responses of the lecturers were subjected to mean rating. That is, the average score any respondents can obtain is $4+3+2+1= 10/4 = 2.5$. This means that mean scores from 2.5 and above indicated high perception, while scores less than 2.50 were considered as low perception. Percentage, mean rating and t-test were used to analyze the data collected. All hypotheses were tested at 0.05 significance level.

Results

Table 1: Distribution of Respondents (Lecturers) by Universities

Universities	Lecturers	%
Al-hikmah University, Ilorin	54	15.2
Kwara State, University, Melete	83	23.3
Landmark University, Omu-Aran	62	17.4
University of Ilorin, Ilorin	157	44.1
Total	356	100

The distribution of the lecturers according to the Universities shows that 44.1% of them were from the University of Ilorin, 15.27% were from the Al-hikmah University, Ilorin, 23.3% were from Kwara State, University, Melete while 27.2% were from Landmark University, Omu-Aran

Table 2: Distribution of Respondents (Lecturers) by Gender

Name of University	Gender				Total
	Male	%	Female	%	
Al-hikmah University,	37	68.5	17	31.5	54
Kwara State, University	46	55.4	37	44.6	83
Landmark University	21	33.9	41	66.1	62
University of Ilorin	89	56.7	68	43.3	157
Total	193	54.2	163	45.8	356

The distribution of lecturers involved in this study based on gender shows that there was a difference in the distribution along gender lines. The results in table 5 show that (193) 54.2% were males in all the universities while (163) 45.8% of the lecturers were females. The results in the table also show that the University of Ilorin has 56.7% of the lecturers as males and 43.3% of the lecturers as females; Al-hikmah University has 68.5% of the lecturers as males and 31.5% of the lecturers as females, Kwara State, University has 55.4% of the lecturers as males and 44.6% of the lecturers as females, while Landmark University has 33.9% of the lecturers as males and 66.1% of the lecturers as females.

Research Question 1: What is the perception of lecturers on the ease of use of mobile devices for teaching?

Table 3: Perceptions of Lecturers on the Ease of Use of Mobile Devices for Teaching

S/N	Items	Mean
1	The flexibility of mobile devices will ensure easy dissemination of knowledge and information to students	2.64
2	It would be easier to remember how to perform teaching tasks using mobile devices	2.27
3	Mobile devices will be easier to use because it is internet enabled	2.64
4	Using mobile devices make learning clearer and understandable	2.56
5	It is easy for me to become skillful at using mobile devices for teaching	2.40
6	It is easy to remember how to perform tasks using mobile devices	2.16
7	Using mobile devices for instruction would requires a lot of skills and effort to ensure learning takes place	2.70
8	Assessment and other modes of evaluation will be made easier with mobile devices	2.75
9	It is easy to customize mobile devices for educational uses	1.92

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10	It will demand a lot of training and re-training to become skillful in using mobile devices for teaching	1.96
11	It will not demand a lot of effort to become skillful in using mobile devices for instructional process	2.97
12	It takes a lot of effort to become skillful in using mobile devices for instructional process	2.48
13	The application of mobile devices for teaching is relatively easy for me	2.61
	Grand Mean	2.47

Table 3 shows the mean rating of the respondent perception on the ease of use of mobile devices in teaching. The result showed that item 11 which stated that mobile devices will not demand a lot of effort to become skillful in using mobile devices for instructional process has the highest mean score of 2.97. This was followed by items 8 and 7 which stated that assessment and other modes of evaluation will be made easier with mobile devices and that using mobile devices for instruction would requires a lot of skills and effort to ensure learning takes place has mean scores of 2.75 and 2.70 respectively. This was followed closely by items 3 and 1 which stated that mobile devices will be easier to use because it is internet enabled and the flexibility of mobile devices will ensure easy dissemination of knowledge and information to students both have a mean score of 2.64. The lowest mean score was item 9 which stated that it is easy to customize mobile devices for educational uses has a mean score of 1.92. The grand mean score of the perception of lecturers on the ease of use of mobile devices for teaching was 2.47. This implies that lecturers perceived mobile devices to be easy to use for teaching.

Hypothesis Testing

Ho1: There is no significant difference between male and female lecturers in their perception on the ease of use of mobile devices for teaching

Table 4: Mean, Standard Deviation Lecturers’ Perception on the Ease of Use of Mobile Devices for Teaching based on Gender

Gender	N	\bar{X}	SD	df	cal -t	Sig	Remark
Male	193	31.29	4.83	354	1.07	0.44	Accepted
Female	163	31.75	4.61				

From table 4, it can be deduced that there was no significant difference between male and female lecturers' perceived ease of use of mobile devices for teaching. This is reflected in the result: $df (354) t= 1.07, p>0.05$. Thus, the hypothesis is accepted. This means that the null hypothesis which states that there is no significant difference between male and female lecturers in their perception on the ease of use of mobile devices for teaching is accepted. The implication is that male and female lecturers perceived mobile devices for teaching to be easy to use.

Discussion

Perceptions of Lecturers on Ease of Use of Mobile Devices for Teaching

The result of this study revealed that lecturers perception of use of mobile technology include; use of mobile devices for teaching did not demand a lot of effort to become skillful in using mobile devices for instructional process; it flexibility will ensure easy dissemination of knowledge and information to students; Mobile devices is easier to use because it is internet enabled; it use for instruction would requires a lot of skills and effort to ensure learning takes place, and assessment and other modes of evaluation will be made easier with mobile devices among others. This implies that lecturers perceived mobile devices easy for teaching.

The result of this study is line with Traxler (2007) who found that mobile devices are useful for mobility of learning in terms of learner's experiences of learning which support a wide variety of conceptions of teaching uniquely placed to support learning that is personalized, authentic and situated. Also, Ash (2013) reported that the proliferation of tablets, smartphones and other mobile devices has increased the number of games, apps, and software to help students learn and increase their literacy skills.

However, based on the usage by student, Labrow (2004) expressed concern on the with sending messages through the use of various apps for example "your" spelled as "ur", "problems" cut down to "probs" and students' ability of letter writing has fallen which has negatively affected the standard of education. Noble (2009) also stated that there are serious concerns about their misuses which include cheating on exams, cyber bullying or just being disruptive in class. This implies that if integrated into teaching, it would be a welcome idea by lecturers. Therefore, necessary efforts should be made on the training and retraining lecturers to become vast and highly proficient in the use of mobiles devices.

Gender Influence on the Perceptions of Lecturers on Ease of Use of Mobile Devices for Teaching

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The null hypothesis which stated there is no significant difference in the perceptions of lecturers on the ease of use of mobile devices for teaching based on gender was accepted. The implication is that male and female lecturers perceived mobile devices easy to use for teaching. The result is in line with the findings of Yusuf and Balogun (2011) who also found no significant difference between male and female student-teachers' attitudes in the use of ICT. Ayinde (2011) investigated the computer self-efficacy among teachers in primary, secondary and tertiary institutions in Niger State, Nigeria and found that male and female teachers in secondary school have similar competence in the use of computer. Also, Bamidele and Olayinka (2012) found that male and female teachers in secondary school have similar competence in the use of computer. However, male primary school teachers were more proficient in the use of computer than their female counterparts. On the other hand, some other researchers found significant difference which is contrary to the finding of the study. For instance, Chukwuemeka (2010) found that female teachers having inadequate proficiency skills in using internet for teaching and learning process. Also, Gambari, Gbodi and Yaki (2008) also reported that male lecturers are more competent in using Internet than their female counterparts. The reason for the result of this study may be due to the fact that both male and female lecturers in the contemporary period have access to various mobile devices in which they use personally for their work, researches and daily activities. Therefore using it for teaching may not seem difficult for them to use.

Conclusion

Based on the findings of the study, the following conclusions were drawn:

- Lectures perception of the ease of use of mobile devices for teaching is positive.
- Mobile devices are easy to use for teaching because use of mobile devices for teaching did not demand a lot of effort to become skillful in using mobile devices for instructional process; it flexibility will ensure easy dissemination of knowledge and information to students; Mobile devices are easier to use because it is internet enabled; it use for instruction would requires a lot of skills and effort to ensure learning takes place, and assessment and other modes of evaluation will be made easier with mobile devices among others. This implies that lecturers perceived mobile devices easy for teaching.
- Male and female lecturer's perception of the ease of use of mobile devices for teaching is similar.

Recommendations

Based on the findings of this study, the following recommendations were made:

- Lecturers should be encouraged to attend trainings, conferences and capacity building workshops in order to acquire skills on the use of Mobile Devices and other ICT tools for teaching.
- Instructional designers and teachers should synergize and build solid theoretical foundation for mobile learning in the context of distance education and on how to utilize emerging mobile technologies and integrate them into their teaching.
- Awareness through seminar and workshop should be mounted for lecturers universities on how courses could be taught using mobile technologies to support learning and they should be taught the skills in using mobile devices for teaching and learning processes.

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