



EVALUATING THE READINESS OF TUTORS AND STUDENTS TOWARDS THE ACCEPTANCE OF M-LEARNING TECHNOLOGY

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ABSTRACT: *The study was intended to evaluate the readiness of tutors and students towards accepting mobile learning in colleges of education in Ghana. Mixed research method was employed with questionnaire and observation as data collection instruments. A student population of 140 and tutor population of 21 were randomly observed and selected to provide responses to questionnaires designed and distributed by the researchers. Generally, majority of the respondents acknowledged that, mobile learning technology is a prerequisite to uplifting the fallen standards of teacher education which has its root in Colleges of education. However, several factors including unavailability of internet facilities hinder successful integration of this new technology. It is recommended that administrators in colleges of education as a matter of urgency should put measures in place to make wireless internet facilities available to students at affordable cost, tutors should be given pedagogical training to enable them engage learners on mobile learning technology.*

KEYWORDS: M-Learning, Mobile Phones, Smart Devices, Portable Devices, Pedagogy, eLearning, Ghana

INTRODUCTION

Technology is playing a significant role in the various sectors of every economy. Its inherent benefits in educational sector cannot be over emphasized. A modern dawn of technology that's having a greater shift of focus from desktop and laptop-oriented teaching and learning to mobile devices. Gradually the advent of mobile devices including but not limited to smart phones, tablets, hybrid systems like Samsung note, Nexus and e-book readers amongst others, are making significant impact on teaching and learning with an era dubbed M-learning. The availability and connectivity of these devices to the internet enables students to gain access to variety of learning resources anytime anywhere and also enhance student-tutor communication beyond the traditional classroom setting. Despite all the benefits associated with mobile devices, countries such as Ghana have not been able to optimize the full potential therein. Could it be a matter of static thinking or culture of fear of responsible usage? A typical case at hand is the prevention of all students in second cycle institutions in Ghana from using mobile devices while in school.

Empirical Basis of the Study

Nowadays, figuring remote gadgets have turned out to be pervasive in today's school grounds (Motiwalla, 2007). The use of mobile devices by students and teachers is a common phenomenon at all levels of education. The coming of Mobile phones like advanced cells,



PDA's and tablet PCs give individuals the flexibility to utilize what they require, where and when it is required (Trifonova & Ronchetti, 2007). Mobile phones have turned out to be more moderate, viable and simple to utilize. These gadgets can expand the advantages of E-learning frameworks by offering college understudies chances to get to course materials and ICT, learn in a shared situation and get developmental assessment and input from educators (Nassuora, 2012 & Crawford, 2007). Mobile devices can broaden the learning procedure past college settings by giving adaptable, convenient and autonomous learning conditions; they can permit understudies a strategy for correspondence both among themselves and amongst them and their instructors (Khaddage et al., 2009). Furthermore, these gadgets additionally give students and teachers a chance to misuse their extra time while flying out to deal with a task or in exercise arrangement (Virvou & Alepis, 2005).

Versatile learning (M-learning) is viewed as another phase in the advancement of PC support and separation learning (Trifonova & Georgiev, 2006). M-learning is another learning worldview made by cell phones and remote systems which bolster available and coordinated effort instruction at all levels including schools, universities and colleges. It is considered as the subsequent stage of E-learning framework and separation adapting, additionally upgrading learning whenever, anyplace (Milrad, 2003 & Motiwalla, 2007). Salmon (2004) thought about it as the fourth era of the electronic learning condition. It can be characterized as any kind of discovering that happens when the student isn't bound by area or time; it can happen whenever, anyplace, with the administrations offered by portable innovation gadgets that present learning content and permit remote correspondence amongst teachers and understudies (Color, Solstad and K'Odingo, 2003).

M-learning gives a choice to self-contemplate by making course materials and instructive assets promptly accessible and effectively available. Furthermore, M-learning encourages the association amongst understudies and educators in the classroom and permits the trading of data outside the college (Lam P., Wong k., Cheng R., Shereen Y., 2011). It is probably going to wind up a standout amongst the best methods for conveying advanced education materials later on (El-Hussein and Cronje, 2010). In spite of the quick spread of cell phones and remote systems inside college grounds, and the benefits of M-learning in advanced education, M-learning will not supplant the customary classroom or the electronic learning framework, yet it can fill in as extra help to supplement and increase the value of the current learning models (Motiwalla, 2007). The capability of M-learning is being acknowledged in instructive conditions the world over, and numerous examinations have researched the utilization of M-learning to figure out how to encourage educating and learning in advanced education (Hayes, Joyce and Pathak, 2004).

Liu & Han (2010) posit that academic issues in regards to the utilization of mobile devices in classrooms, for example, has the potential to boost up the learning procedure and learners encouraged to embrace this innovation. Teachers and student's acknowledgment of such new innovation is an essential key to quality education. Again, researching factors affecting students' acknowledgment of M-learning is a fundamental requirement in ensuring that time and cash put into M-learning is utilized productively. Besides, this will assist colleges with delivering quality education and enhance their educational and learning vital plans.

The organization of M-learning in advanced education needs a considerable measure of push to conquer all troubles confronting the arrangement of this new innovation. There are a few issues confronting M-learning, unavailability of internet, lack of technical know-how in the



use of such gadgets etc. For lack of confidence and self-belief some college teachers would prefer not to apply this innovation, or might confront a few challenges in endeavouring to utilize it successfully, as it might require knowledge in the operation of mobile devices. Hence, the acceptance of M-learning in advanced education requires rules on the most proficient method to construct a successful and economical M-learning framework that draws in all stakeholders and gives them benefits that address their issues while defeating all foundation challenges. It is against this backdrop that the study was conducted to investigate all basic factors that affect tutors and student's readiness towards accepting M-learning in colleges of education in Ghana.

Objectives

1. To assess the readiness of college tutors and students towards the acceptance of mobile learning in Offinso colleges of education in Ghana.
2. To assess pedagogical skills tutors possess to effectively implement m-learning in their teaching.
3. To look at factors that affect mobile learning in Colleges of Education in Ghana.

Research Questions

1. How ready are tutors and students towards accepting mobile learning in colleges of education in Ghana?
2. What pedagogical skills do tutors possess to effectively implement m-learning in their teaching?
3. What are the factors influencing students' acceptance towards M-learning in colleges of education in Ghana?

Significance of the Study

In the modern competitive world teachers need to be abreast with information technology to be able to function effectively and efficiently. The study will help create awareness of the need for teachers to equip themselves adequately for the demands of 21st century education. The knowledge in Information and Communication Technology will imbibe in teachers the spirit of enquiry and perseverance to find out how, why, and when to use information for effective teaching. The study into the use of mobile learning will ignite teachers' desire to adopt the use of technology in their work and also improve the quality of teacher-learner interactions. Moreover, this study makes the ground fertile for quality education which tops the list of government priorities in Education. Finally, the study will remove all the barriers, doubts and wrong perceptions of students and teachers on the use of mobile learning technology.

METHODOLOGY

The study adopted the mixed research method within which both qualitative and quantitative data were collected and analysed. Quantitative research techniques are portrayed by the gathering of data which can be broken down numerically, the consequences of which are



commonly introduced utilizing insights, tables and diagrams. Quantitative research strategies endeavour to amplify objectivity, unwavering quality, and generalisation of discoveries, and are regularly keen on forecast. Quantitative research technique was employed to collect and present results for research question one (1).

Qualitative research method is commonly used to answer inquiries regarding the mind-boggling nature of marvels, regularly with the point of portraying and understanding the wonders from the respondents' perspective. In this study, the collected data were presented statistically in a quantitative format which clearly depicts the actual situation found on the field during the data collection. Again, responses from the interview as transcribed in the field notes were discussed and interpreted precisely. Qualitative analysis was adopted to collect data and present findings for research question two (2) and three (3).

Population for the Study

The Target population for the study involves Tutors and all Students of Offinso College of Education. Population in this context constitutes the First, Second and Third-year student-teachers of the College. The student population is made up of 350 first year students, 350 second year students and 490 third year students respectively. It was a balanced student population in terms of gender. The tutor population of the College is 48. The study therefore has a total population of 1238 from which sampling was done to select 161 participants.

Table 1: Target and Sampled Population for the Study

Respondents	Population	Sampled Population	Percentage (%)
Tutors	48	21	43.75
First year Students	350	70	20%
Second year students	350	70	20%
Third year Students	490	-	-
Total	1238	161	13.0

Source: Field data 2018

The Sample and Sampling

To improve the quality of the outcome some Tutors and Students were coined out of the entire college population for the study. Therefore, the researchers resorted to sampling in order to get a controlled size for the study. As a result, the study sampled 70 students from first year, 70 from second year and 21 tutors across all the departments. As the college is made up of 7 departments, it was necessary to select 3 tutors from each department which made up the tutor population of 21. All participants were randomly selected. The fig.1 below depicts the sampled population for the study.

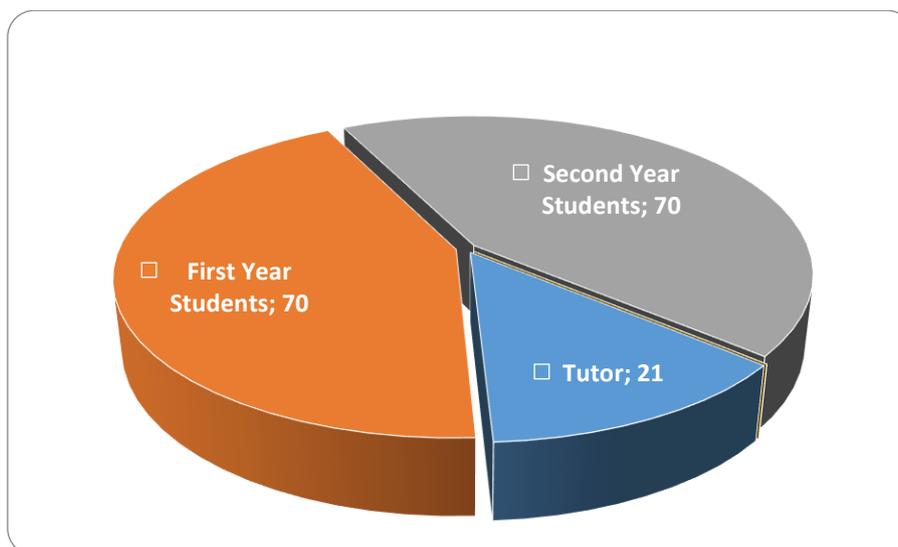


Fig. 1. Sampled Population for the study

Data Collection Instruments

Questionnaire and observation were the main instruments that were used to collect data from 21 Tutors, 70 first-year students and 70 second-year students respectively. Questionnaire containing appropriate questions meant to assess tutors and student's readiness to integrate technology into their classroom activities were issued out to collect data. Moreover, classroom routines, practices and tutor's pedagogical ability for effective learner engagement in m-learning were accordingly observed using a well-prepared observation guide.

Administration of Instruments

Questionnaires comprising simple questions were distributed to the respondents (Tutors and Students) during break in the instructional time and they were guided to provide balanced responses to satisfy the research questions. Activities of the tutors and students in the classroom were also observed after seeking for their consents. Ethical issues regarding anonymity and confidentiality were discussed with Respondents which encouraged them to provide impartial responses in the presence of the researchers.

ANALYSIS AND DISCUSSIONS OF RESULTS

Research questions One (1)

How ready are tutors and students towards accepting mobile learning in colleges of education in Ghana?

The Research questions one sought to ascertain tutors and student's readiness towards the use of mobile devices in teaching and learning to improve teacher education in the colleges of education. To accomplish this objective, the researcher engaged the tutors and student respondents who were asked to express their opinions on questionnaire items based on a 5-



point Likert scale ranging from strongly disagree (SD) coded as 1 to strongly agree (SA) coded as 5. The results on the opinions of the students and tutors about the use of mobile devices for teaching and learning in colleges of education are presented in Table 2 and 3.

Table 2: Statistics of Students opinion on the use of Mobile devices in teaching and learning.

Questionnaire Items	SD(1)	D(2)	N(3)	A(4)	SA(5)
1. I feel I am not capable of using mobile technology applications.	78%	17%	5%	0%	0%
2. I need training to understand how to use a new mobile application.	4%	11%	3%	30%	52%
3. I believe that using a mobile device to learn will increase the flexibility to learn inside and outside the classroom	0%	2%	3%	67%	28%
4. I think that using M-learning will help me to improve my learning	0%	0%	11%	40%	49%
5. I believe that implementing M-Learning in the educational process will increase communication between teachers and students.	0%	0%	1%	29%	70%
6. Implementing M-Learning will enable me to have independent learning	0%	0%	0%	20%	80%
7. I think that M-Learning will improve the quality of the curriculum delivery	1%	5%	2%	40%	52%
8. It is not easy to find a hot spot to connect to the internet on my mobile phone or laptop.	0%	0%	0%	70%	30%
9. I believe that implementing M-learning is a complicated process.	17%	11%	34%	30%	8%
10. I do not think there is enough technical Support to implement M-learning.	1%	16%	50%	21%	12%

Field study, 2018

The results in Table 2 show that the student respondents generally strongly disagree that they are not capable of using mobile technology in their learning. 78% thus 109 of the total student respondents indicated that they feel capable of using mobile technology application while none of them disagreed. However, 73(52%) of the respondents suggested that they need practical training to be able to use the mobile technology application effectively. Moreover, a greater number of the respondents thus 95 (67%) believe that using mobile device to learn will increase flexibility to learn inside and outside the classroom. This was supported by 39 (28%) of the respondents who chose strongly agree. Again, 56(40%) and 69(49%) of the respondents agreed and strongly agreed that Mobile Learning will improve their learning. Also, 50(70%) believe that implementing M-Learning in the educational process will increase communication between teachers and students. This is in line with Lam



et al, assertion that M-learning encourages the association amongst students and teachers in the classroom and permits the trading of data outside the college (Lam et al., 2011). Majority thus (80%) of the respondents attest to the fact that Mobile learning will enable them to have independent learning. Furthermore, 40% agree and 52% strongly agree that Mobile learning will improve the quality of the curriculum delivery. Almost all the respondents (70% A and 30% SA) claimed it is not easy to find internet connectivity on their mobile and laptop devices. Lastly, 70(50%) of the respondents said they need technical support to practice mobile learning.

Table 3: Statistics of Tutors opinion on the use of Mobile devices in teaching and learning.

Questionnaire Items	Yes	No	None
Q1. Using M-learning would enable me to achieve teaching tasks more quickly.	81%	19%	0%
Q2. Mobile learning could improve my collaboration with students	62%	33%	5%
Q3. Using M-learning would improve my performance of my students.	86%	14%	0%
Q4. I would find an M-learning system flexible and easy to use.	76%	19%	5%
Q5. Learning to operate an M-learning system does not require much effort.	14%	72%	14%
Q6. Communication and feedback between tutors and students would be easy	91%	8%	1%
Q7. I like to experiment with new information technologies	82%	14%	4%
Q8. I plan to use M-learning in my teaching in the future.	93%	3 %	4%
Q9. I would recommend others to use M-learning systems services in the future.	78%	0%	22%
Q10. I would use M-learning systems services for online research	67%	33%	0%

Field study, 2018

In Table 3, 17 (81%) of the respondents said mobile learning would enable them to achieve teaching tasks more quickly whilst 4 (19%) dissented. 13 of the respondents making 62% chose “yes” indicating that, Mobile learning could improve their collaboration with students, although, this was rebutted by 7(33%) who selected “No” and 1(5%) who selected “None” respectively. 86% thus 18 of the total tutor respondents indicated that using M-learning would improve the performance of their students and 3(14%) disagreed. Again, 16(76%) they would find an M-learning system flexible and easy to use whilst 4 (19%) said “No” and 1(5%) choose none which means they were not sure. Moreover, 3(14%) envisaged that Learning to operate an M-learning system does not require much effort whilst majority thus 15(72%) disputed and 3(14%) were uncertain. 91% thus 19 out of the 21 respondents were of the view that Communication and feedback between tutors and students would be easy. They



believe that mobile learning will help to improve student-teacher interactions whilst 2 (8%) disagreed probably owing to the fact that some of these respondents were new to the latest trend of technology in learning.

In addition, 17(82%) expressed the desire to experiment with this new information technology in learning. They consider it will help to improve their lesson delivery if they adopt it and become familiar with it, however 3 respondents totalling 14% did not think so whilst (1) respondent thus 4% wanted to stick to the traditional way of lesson delivery. This might have arisen out of uncertainty that normally accompanies new learning situations. Majority of the respondents thus 19 (93%) said “yes”, they plan to use Mobile learning in their teaching in the future whilst 1 (3%) said no and other respondents was uncertain and therefore selected “none”. A greater number of the respondents thus 16 (78%) declared that they would recommend others to use M-learning systems services in the future though 5 (22%) were doubtful. Lastly, 14 (67%) of the respondents indicated that they would use M-learning systems services for online research whilst 7 (33%) said “no”. Generally, majority of the respondents acknowledged that, the introduction of mobile learning will help to uplift the fallen standards of teacher education which has its root in Colleges of education. From their responses, majority of them see the need to adopt such technology in learning with the hope that it will improve student-teacher interactions, and ultimately makes learning easy.

Research Question (2)

What pedagogical skills do tutors possess to effectively implement m-learning in their teaching?

Tutors have not had adequate training in the use of ICT Tools therefore most tutors find it difficult adopting Mobile learning in their work. It must be noted that, for effective use of new technology, it is imperative that users acquire adequate training to be able to excel in their field of endeavour. Apparently, the use of mobile phones is a common phenomenon among professionals in all fields which teachers are not exception. However, integration of mobile learning is not a common practice in teacher education in Ghana. Though there have been attempts by individual tutors to try this new technology based on their teaching experiences but there are not much success stories to share. Almost all the tutors observed in this study have android mobile phones which they use for communication purposes. Among the 21 tutors, none has adopted mobile learning in their teaching. Lessons are often prepared in a course book and distributed to students for lectures and their private studies. The use of other information and communication technology tools such as laptops, tablets, projectors, PDAs etc. are virtually non-existent. According to Crawford (2007) such gadgets can expand the advantages of E-learning frameworks by offering college students chances to get to course materials learn in a shared situation and get developmental assessment and input from tutors. The use of mobile phones can broaden the learning procedure by giving adaptable, convenient and autonomous learning conditions; they can offer students a strategy for correspondence both among themselves and their tutors (Khaddage et al., 2009). Moreover, the study found out that teachers also struggle for internet connectivity on campus. The library is not adequately equipped with ICT facilities that can be used by teachers to improve their teaching and apart from their mobile phones, laptops are often used to prepare lessons but without internet. Regardless of the challenge’s tutors face, their readiness for the use of mobile learning in the classroom cannot be doubted if the necessary support is given by the college authorities.



Research Question (3)

What are the factors influencing students "acceptance towards M-learning in colleges of education in Ghana?

First of all, activities of students were observed to lay bare factors that influence their readiness to accept Mobile learning in their studies. The study revealed several factors that militate against their eagerness to adopt the new way of learning. Among them are the use of android phones, accessibility to internet, and use of mobile phones in the classroom.

Use of Android Phones

Mobile learning will only be effective if learner use phones that have internet connectivity. With internet learner could subscribe to online platforms, install mobile apps, send and receive messages, download learning materials and so on. It was discovered that, about 91 making (65%) of the 140 students who were observed did not have android phones. Some of these students still use analogue phone that are normally use for phone call or text messaging purposes. These students do not have access to internet, therefore could not participate in any mobile learning. However, the remaining 49 students representing (35%) use android phones but mostly engage in social media activities. Their favourite site being Facebook and WhatsApp probably is due to the fact that tutors do not use such platforms for the facilitation of lessons. For mobile learning to be effective, students must have access to the use of Android phones or tablets that are internet friendly. It must be noted that some of these students cannot afford the cost of an android phone therefore resort to the use of analogue mobile phones that are comparatively cheaper.

Accessibility to Internet on Campus

Internet connectivity is a prerequisite for effective mobile learning, without internet one cannot access information online. From the observation, there is no internet availability for students to partake in online activities such as surfing; downloading, uploading, browsing, emailing, etc. students buy their own internet data for online activities. It was discovered that, most of the students are not able to afford the cost of expensive internet data. No part of the school has internet connectivity which could have served as a motivation for students to engage in mobile learning. In an environment where learning is supported with free facilities such WIFI, Hotspot tutors and students find it easy for information dissemination which promote effective tutor-student interactions.

Use of Mobile Phones in the Classroom

The use of mobile phones is considered prohibited in the classroom especially during lesson delivery. Students are supposed to put their mobile phones on silence so as to avoid distraction of lessons during lecture. Though not a management decision to cease or confiscate phones in the classroom but tutors could do so to students who refuse to comply with the basic principle. The use of mobile phone in the classroom could aid or facilitate learning if well managed but students and tutor will need training to be able to adopt this new technology. Furthermore, unavailability of internet facilities in the classrooms makes it difficult to integrate mobile learning in the classroom routines.



CONCLUSIONS AND RECOMMENDATIONS

From the analysis of all available data gathered from both tutors and student respondent, it could be deduced that all parties accept the fact that mobile learning is a new trend of teaching and learning which needs to be embraced by both faculty members and students alike and its ability to enhance effective teaching and learning cannot be over emphasized. However, for colleges of education to reap its inherent benefit, there is the need to put some measures in place.

It is therefore imperative to consider these recommendations in-order to maximize the full potential of mobile learning in Ghanaian colleges of education.

1. College tutors need training on the approaches and methods to employ for effective learner engagement on mobile learning platforms. Since M-learning travels beyond the traditional classroom setting, instructors need to be fully equipped with pedagogical skills and new trends in handling learners for optimal learner output in an environment where there is no face-to-face interaction between learners and instructors.
2. There is the need to create awareness on the part of both tutors and students on new technologies that are being used to enhance learning on mobile platforms. Mobile learning systems such as ubiquitous mobile system, adaptive mobile systems, self-regulated mobile systems and personalised mobile learning systems needs to be introduced to both parties. So that instructors would not only limit themselves to sharing of static lecture notes, hyperlinks and videos on mobile platforms.
3. Institution of higher learning like universities and colleges of education must find it prudent to provide wireless hotspot (WiFi) at a moderate cost in the various campuses to motivate and promote effective online research which will go a long way to improve M-learning among students.
4. Principals and college administrators should liaise with mobile phone manufacturers to produce mobile devices and a reduced cost. University of education-Winneba, through IDeL have been trying this approach for the past three years.

Suggestions for future research

In the future, studies could be conducted on the impact of mobile learning on the academic performance of college of education students, mobile gamification and its impact on learner achievement in colleges of education in Ghana.

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