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Mobile-Learning (M-Learning) through WhatsApp Messaging, Facebook, and YouTube, Nigeria

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Abstract:

The paper's attention is on M-learning in Nigerian schools through the WhatsApp, Facebook and the YouTube. The growing technologies in education have made the concept of M-learning ubiquitous in the present world. Mobile learning is a type of learning that is not only in the four wall of a classroom. The paper argued the current situation in Nigeria where students seem not to be willing to attend classes, and the inadequate infrastructure makes the M-learning imperative. However, acquiring educational knowledge is essential not only limited to the classroom with the student's technologies savvy. The paper considered the WhatsApp, Facebook and the YouTube being the universal apps in every smartphone and easy to operate by the students. It is also the Apps most students are familiar with in the social media networking accessible everywhere there is internet connectivity. The article explored features in these devices significant for learning such as text messaging, image messaging, voice messaging and video messaging. The use of these technologies could also provide the student with the authentic learning experience. The authors concluded that using these technologies in learning will be of significant advantages to the students and stakeholders in education. The paper discussed some implications of the paper such as internet connectivity and the need for regular power supply in every town and village.

Keywords:

Mobile Learning, WhatsApp, Facebook, YouTube, Internet Connectivity

1. Introduction

The growing demand for knowledge in the world labour market requires that the teaching and learning be not confined only to the classroom or a specific place. The current situation in Nigeria educational system attests to the fact that classroom learning may not be able to sustain our education. Students are no longer attending classes: they prefer social entertainment than to sit down in the classes. The cost of maintaining students in a classroom is getting more difficult due to poverty emanating

from the bad governance. Infrastructures in school are in dilapidating condition, and school buildings are getting worse every day. The resultant effect is the poor academic performance every year.

Given the above, one will say going to school to acquire knowledge may not be necessary for this generation of technologies savvy. It is almost common everywhere to see students possessing a mobile phone no matter the parent economy. In Nigeria today, it is almost correct to say only the children of the rich attend good schools and that of the corrupt wealthy politicians. However, both the children of the poor and the rich are possessing personal mobile phones for social engagement. The paper, therefore, is of the view that the conventional device (mobile phone) possessed by almost all these students could be utilized to provide them sustainable learning. Thus, the idea of mobile learning becomes imperative. Mobile learning is not a new concept as [15] had once observed the importance of using mobile devices to achieve the authentic mobile learning. M-learning is when mobile technology is used to learn at any time, anywhere and at the learner's pace. According to [22, the mobile technology may be combined with the ICT or remain alone. Similarly, [5] may have considered it suitable for a mobile device like a cell phone in schools and posits that the values of using mobile technologies in teaching and learning are essential.

There are several other research documents about the subject of M-learning with different perception and approach. The current article is considering M-learning in the perspectives of some mobile Apps which are WhatsApp, Facebook, and the YouTube. The rationale for these Apps is because they are most commonly used by the Nigerian students of all levels and also available on almost all mobile phone. Additionally, the cost of using the Apps is low among higher education students. M-learning is imperative in Nigeria as the thirst for higher education is growing every day. Success in higher education goes beyond only the classroom, and the students are expected to learn by themselves with less dependence on the teachers.

The global quest for knowledge has resulted in the growing demand for the higher education. Thus, the world enrolment for higher education is increasing every day. According to [20], the tertiary education is no more for only a few elites and the privileged groups but a global industry witnessing bourgeoning students' enrolment in every country. The young people in developing countries are continually increasing the demand for tertiary education due to the changing labour market and the life-long learning demand. The gap in the higher education between the industrialized world and the developing countries lies in the quality [20] which might be due to technology.

Technology had been an essential resource in higher education long ago in industrialized nations. According to [11], there is an increased expectation placed on the role that technology can play to achieve active learning. Thus, the quality of higher education in this clime is far better than any of the developing countries. The developing countries in the past decades had also realized the importance of technology in higher education and thus the introduction of Information Technology (IT) in schools. However, with the introduction of IT, there are limitations to the use of these technologies in schools among other things poor power generation, poverty, and bad governance [1].

Technologies such as mobile phone and iPad are part of learning in many nations of the world including Nigeria. Research studies indicate several findings of the use of these devices in education especially the higher education. The application of iPad in the teaching and learning in higher education is everywhere in Nigerian schools, but

the mobile phone is not used often in schools for learning. Experience indicates that the use of mobile phone in schools today had both good and bad influence on the student's academic performance. Recently, a scholar was lamenting the use of SMS through mobile phone had contributed to the rate at which student fails the English language in Nigerian schools. It is unfortunate that most teachers including myself frown at students when they make use of this device during the lecture hours. No one can dispute it that the device is a ubiquitous technology that we must acknowledge positively or otherwise. The best position of every teacher is to integrate the device into the learning because it is savvy by higher education students.

The mobile phone contains many Apps that are useful for the teaching and learning in schools which many students and teachers are probably misusing. Three of these Apps are the WhatsApp, the Facebook, and the YouTube. [8] believed the Apps have a unique feature of enhancing communication within a group. For [28] through these Apps communication via mobile phone has become faster, cheaper, and more comfortable. A research study shows that the rate at which university students are using Facebook is increasing every day [21]. The use of YouTube for the academic purpose is gradually gaining acceptance in most of the world as universities are incorporating YouTube into the digital collections [9].

In the light of the above, this article looked at the use of WhatsApp, Facebook and the YouTube for educational purposes in Nigerian schools. The paper considered the use of each of these Apps by the students and then looked at their advantages to the Nigeria education system.

2. Mobile Learning (M-Learning)

Mobile learning is a type of learning that is not only in the four wall of a classroom. It could mean online learning for some people and to another it could be distance learning or learning with mobile devices [5,24]. However, the unique difference between this learning and the traditional classroom learning is the use of technologies. It is not an exaggeration to say that in 21st-century mobile learning pervaded the entire world [25]. Mobile technologies promote distance learning in situations where access to education is difficult or in time of national conflict [24] as we have in Nigeria presently. The mobile learning is portable, convenient and affordable for both the teachers and the students. It is a research area that can be explored both by the teachers and students to enhance the e-learning system [27]. We are in the age where students' restlessness is on the increase because they relied much on the mobile technologies for learning. According to [29], this era is the age of personal technical mobility, where devices like the mobile phones, MP3 players, PDAs could be carried to anywhere. The love most students have for the mobile technology such as mobile phone and tablet could be an advantage for learning at this age. [34] once observed that the students love and regularly use mobile technology and such are employed to engage in personalized education.

3. Conceptual Framework

The framework is vital for a proper understanding of the authors' position on the paper. Many authors must have written on this title but, the conceptual framework of the current paper will enable the readers to appreciate that this is another perspective.

The teacher could decide to post images and videos on the Facebook account of the students at any time. Similarly, the teacher may use WhatsApp or YouTube for

such study materials. Once the students get these materials, they can study it at any time and as many time as possible and send their responses back to the teacher as regards any question or challenge. The figure below conceptualizes the M-learning through the WhatsApp, Facebook and The YouTube.

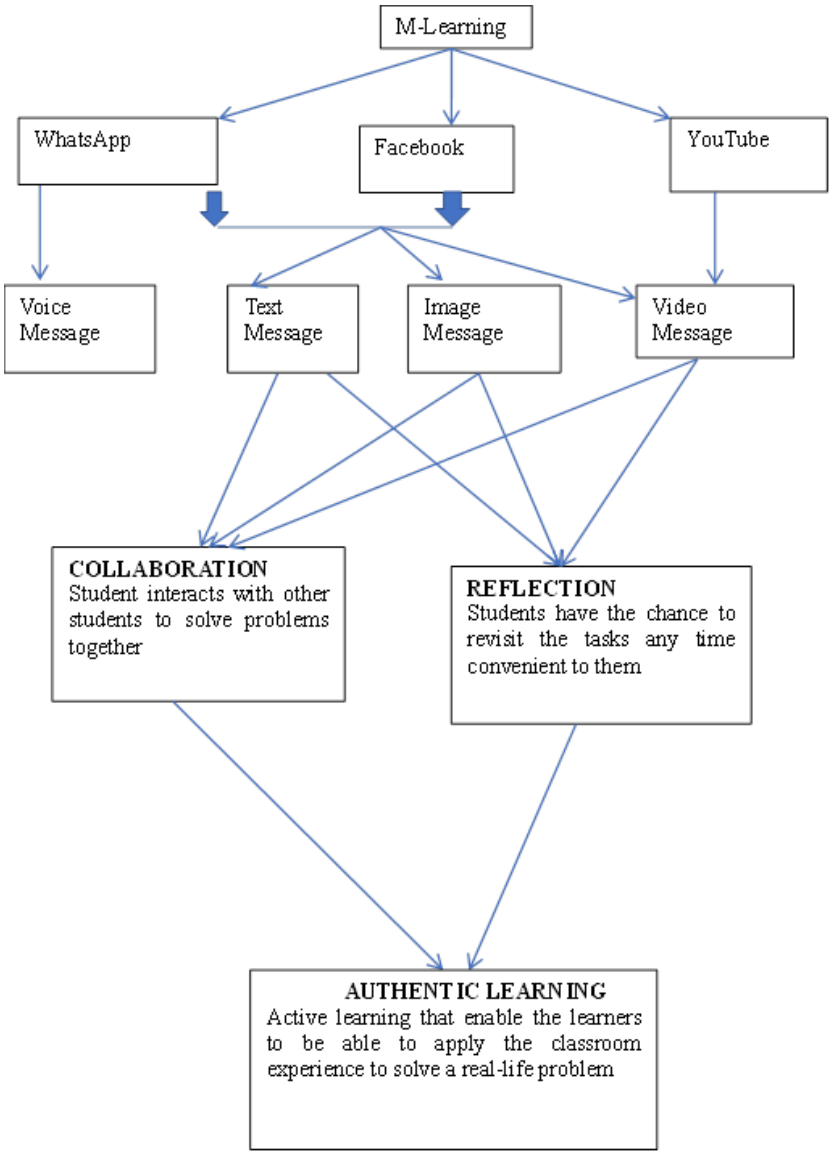

Figure 1. *Conceptual framework.*

Figure 1 above conceptualized the M-learning using the WhatsApp, Facebook and the YouTube as discussed in the introduction. Four features were identified that could support active M-learning by the three Apps. The video message is a feature that is common to all the three Apps for active M-learning. The voice message of WhatsApp is capable of supporting M-learning because it gives instant feedback for both the teacher and the students. The text message of the Facebook usually has a time lag in delivering the message through the Messenger. The text message of WhatsApp is an instant message where the internet connection is good. Both the WhatsApp and the Facebook have the image message that the students could explore for M-learning. The video message is a common feature that is found in the three Apps. Three of the four features which are text, image, and video messages are supporting the authentic learning experience. These features allow collaboration between students and students, students and teachers. Additionally, these features give an opportunity for reflective

learning. Hence, M-learning through the WhatsApp, Facebook and the YouTube enhances students' authentic learning experience.

4. WhatsApp Instant Messaging

Technology is changing our ways of thinking this day. The advents of the smartphone technology have evolved into the use of WhatsApp Instant Messaging. One needs not to go very far into any campus before seeing students and teachers engaging in the use of the App. Table 1 below shows how the students in the university use WhatsApp as extracted from the research conducted by [4].

Table 1. *Distribution of the University students' uses of WhatsApp for educational purpose.*

S/N	Purpose	Daily (%)	Weekly (%)	Monthly (%)
1	Communicate classmate on courses requirement	39.6	22.7	18.2
2	Communicate instructor on courses requirement	10.4	19.5	19.5
3	Publish courses announcements	22.7	18.8	16.2
4	Discuss with instructor on courses related issues	23.4	17.5	20.8
5	Seek help from old students on courses requirement	26.6	16.2	26
6	Post links related to topics and resources on courses	23.4	14.9	24
7	Formation of students groups for education purpose	24.7	22.7	18.2
8	Organize meetings with classmates on assignment & project	21.4	16.9	20.8
9	Get feedback from course instructors	21.4	16.9	20.8
10	Organize time of study	26	16.9	12.3
11	Discuss ideas with classmates on course related issue	24	22.1	20.8

Source: [4]

The table shows that the university students use WhatsApp for various purposes. There is the possibility that using it for M-learning will increase the percentage of usage among the students.

The App offers four types of opportunities depending on the user: these are image message, video message, voice message and text messages. The four features are outstanding as instructional tools outside the classroom for learning [28]. Research studies show that irrespective of the course these features proved to be useful tools for students' learning both within and outside the classroom. WhatsApp messaging has the potential of reinforcing the class material and positively influence discussion, collaborative work, and authoring [26]. It offers the student the opportunity to watch and listen to the recorded video of a lecture at any time most convenient for the students [8,26,28]. This is an excellent advantage as it gives an opportunity for the student's reflection. One of the major problems with the conventional method of

teaching is that students' opportunity to reflect on the learning is weak. Reflection is one of the fundamental elements of authentic learning [17].

Science teachers and students could get the best from the WhatsApp messaging if they properly adapt it to learning purpose. Most students do not make use of this App for the learning purposes but the entertainment. For instance, there are complex concepts or topics in science that the students may not understand when taught in the class. Some images may be difficult to draw for the students in the class because of the time factor. The students get a better understanding of these topics and images when recorded in the WhatsApp. The students have much time to listen and view the images as many times as possible until they understand it. WhatsApp instant messaging promotes online collaboration and cooperation between students [6]. The sharing of information through the WhatsApp technology is both instantaneous and convenient [12]. The sharing of images, video and audio messages, exchanging ideas, are made possible through the WhatsApp M-learning [33].

5. Facebook (FB) App for Learning

Facebook App is typical in almost every mobile phone and today in Nigeria almost all students have a Facebook account. The FB account is mostly used for social entertainment by all students only few may be using it for the academic learning purposes. Many students erroneously believed Facebook was for social reasons, not for formal teaching purposes, but sometimes used informally for learning purposes [23]. One cannot dispute it that, today both the teachers and the students live in a world of Facebook, YouTube and other social media like Twitter and Wikipedia [19]. According to [13], most students have been using these social media in their personal lives but time has come to adopt the media for educational instruction.

The FB could be an excellent medium to learn by students at any time and at anywhere in the world. All that the teacher needs to do is to have the FB account of all his or her students. The teacher could send the learning task to all the students through their accounts. The time all these students used in other things not relevant to their studies are gainfully used for learning. The FB account is flexible to allow both the teacher and the student exchange academic ideas just as in a face-to-face classroom context. The FB learning account is not only in a particular field of study. Research suggested that FB is a potent tool useful for promoting the active academic practice, and students have extended its uses from social origins to educational purposes [23].

Teachers in all level should develop awareness for FB learning among all the students. This is necessary because most students are only used to the FB as a mean of social entertainment. It could be done by posting assignment through it and ensure the students submit same through FB. Students will surely respond positively to this because they do not joke with assignment since it is part of their final grade. The next thing is to post lecture through the FB and ensure the students give the feedback by commenting on the post. To make it useful, the teacher can divide a course into two: teaching one through the FB and the other through the classroom face-to-face method. They could record the audio and send through the FB. The students have the advantage of listening to this recorded audio lecture as many times as possible and at a time most convenient for the students.

6. YouTube (YT) as a Learning Tool

Studies suggest that the YT can be an excellent and veritable mean of learning for students at all levels. The use of videos in educational arenas has been profoundly influenced and supported by online technologies, principally with YT as widely used [31]. Goldfarb (2002) in [31] had for a long time argued that the use of videos in teaching and learning is an instructional strategy that researchers had advocated for which was supported by research findings. YouTube is a learner-directed and self-regulating context which interacts with other social networking sites having the interactive-engagement as the principal activity [32]. Many users including students, teachers, and scholars have gained an audience to the online video-sharing services, specifically the YouTube [30].

YT is a platform where both the teachers and students have the opportunity to download and upload learning materials. The learning materials in the YT are both in audio and video the students have free access to at anytime and anywhere. The one fundamental reason YT is a useful resource for M-learning is that it is accessible anywhere once there is internet connectivity. The YT App is also very easy and friendly to many types of the mobile phone especially the Android. The students can access the learning resources on YT in the farm, kitchen, toilet, and bedroom, on the playing ground [5]. This access could also be at any time and at the students' best time convenient.

Harnessing YT as an M-learning tool demands that the teacher upload all the materials for the course to the YT and give the links to the students. For instance, the teacher could record both the audio and the video of a concept or a topic to the YT for the students to watch and listen to and send their questions to the teacher. The use of YT for learning purpose is effortless and flexible. It does not cost as much as the classroom learning experience. Observation shows some lecturers used YT to enhance their research and lecturing abilities. Such lecturers after reading any concept to be taught from various sources will often link to the YT to read more about the concept both in video and audio. The results had been impressive as students delighted in attending such lecturer's lecture and making good grades.

Teachers could also link other authors' material with theirs to help the students learn better by filtering the video to ensure they send the right videos to the students. The ability to filter videos for learning purposes is a significant feature found useful in YouTube [3]. The use of YT in M-learning is a way of enhancing the authentic learning which most of the traditional classroom learning may not be able. Authentic learning is active learning that encourages total student control of their learning with the teacher playing the role of scaffolding and coaching [2]. Two elements of authentic learning critical in the YT mobile learning are the collaboration and reflection. Collaboration gives the opportunity to students to solve the problem together and to fully articulate their learning while progressing in the learning task [16]. According to [18], collaboration provides joint problem solving and social support. According to [7], reflection involves returning to the experience, attending to feelings and re-evaluating the experience. Students missed learning opportunities when they are not permitted to reflect upon and consolidate their learning [16]. The YT mobile learning will allow the students to replay the video and audio recording as many times as possible. It has always been complicated for any teacher to keep re-explaining concepts to students once the lecturing is over because of a large population of students in a class. However, for the YT, each student can replay both the audio and the video at any time to get any information needed. The video has the potential of introducing new concepts, spread information during instruction, or close

lessons to recapitulate important points. Most of the classes that incorporate video directly into the lecture employ the video to grab students' attention [19].

Many universities like Colombia University, Yale, and Harvard are few examples in the world that had been uploading their courses and lecture on the YT for free learning. The Nigerian students can make use of the resources from these universities alongside those received from their teachers. Thus, resembles the multiple roles and perspectives of the authentic learning elements. It permits various perspectives from different points of view; not just a single perspective on learning [17]. Multiple roles and perspectives enable different resources, people, and media to offer a rich array of knowledge and points of view [16].

7. Conclusions

The M-learning is highly desirable in this era of ICT because many students are no longer willing to sit down to learn in the formal classrooms. M-learning with less cost implication could be an alternative for these cohorts of the student to acquire knowledge for the present century. Learning through the WhatsApp, Facebook, and YouTube could be the best M-learning Apps in Nigeria today. The Apps are straightforward to install on most smartphones, and the internet connectivity is simple with low cost. The Apps have the feature of text messaging, image messaging, audio and video messaging that the students could employ easily for their learning anywhere and at any time. The paper also links this M-learning with the authentic learning because the students have the opportunity to learn by themselves and at their pace. Hence, three authentic learning elements were plausible through this M-learning which are collaboration, reflection, multiple roles and perspectives. If this paper is given the considerations required, the students and all the stakeholders in education will immensely benefit from it. However, the paper has some implications discussed below.

8. The Implications of the Paper

Nigeria as a developing nation has many challenges that might be critical to the implementation of the paper. For the M-learning to be successful in Nigeria today implies that erratic power supply must be worked upon by the federal government to ensure electric power is stable. It also requires that every town and village have access to the electric power supply: otherwise, the programme will fail. Presently in Nigeria, a significant number of the populace have no access to the regular power supply while many towns and villages are yet to be connected to the national grid. The students need electric power to recharge the batteries of their mobile phone regularly. Access to lectures and submitting an assignment through the WhatsApp, Facebook and the YouTube depends on the conditions of the mobile phone powered by the batteries.

Internet connectivity is the 'blood, soul and the heart' of this M-learning. Once the students or the teachers are not connected to the internet, the exercise fails. It, therefore, implies that every town and village in Nigeria must have access to the internet. The current internet connectivity cannot guarantee the sustainable M-learning through WhatsApp, Facebook, and the YouTube. Sustainable M-learning required that both the teachers and the students have unhindered access to the internet anywhere and at any time in the country.

Conflicts of Interest

The authors declare that there is no conflict of interest regarding the publication of this article.

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