ISSN No:-2456-2165

Significant of Smartphone: An Educational Technology Tool for Teaching and Learning

Bulus P. BALA
Department of Computer Science
Federal College of Education, Yola Nigeria

Abstract:- Technology is everything today, whatever you do without incorporating the technology into it will be difficult to stand the test of time, and tap the advantages it poses in the twenty first century where almost all human activities are technologically driven. Educational technology plays significant roles in the creation and dissemination of knowledge in several ways; through computers, mobile phones, etc. Mobile phones act as catalysts for fostering mobile learning. They are transforming traditional classroom-based teaching and learning into smart learning. The significance of Smartphone as educational technology gadget is the focus of this paper. Discusses the overview of education technology and mobile learning as any educational provision where the dominant technologies are handheld or palmtop devices. The paper listed some of benefits derived in using mobile learning. The paper also critically examined Smartphone and it significance as an Educational Technology tool for learning. Easy Access to App Store, Low Data Rate Subscription and Consumption, Affordability and Portability Smartphone, and Independent Learning are some of the Reasons for using Smartphone for learning. Lack of knowhow on ICT, Lack of staff development on the use of ICT gadgets in teaching, poor equipments, resources, necessary for effective lesson delivery are some of the problems discouraging teachers from integrating educational technology into the classrooms settings. The paper concluded that Smartphone is one of the best educational technology tool teachers can use to produce and disseminate learning resources at their convenience and that students can use to access learning resources of any form, read and reread at any time, collaborate and share ideas with others; teachers and students elsewhere. Recommended among others universities, polytechnics, and colleges educators should introduce a virtual class system where lessons can take place via teleconferencing.

Keyword:- *Educational Technology, Mobile Learning, Smartphone.*

I. INTRODUCTION

The word technology originated from the Greek word "techno" which refers to the Motivation and ability, to create or build on existing knowledge or idea through scientific process. Technology is everything today, whatever you do without incorporating the technology into it will be difficult to stand the test of time, and the advantages it poses in the twenty first century where almost all human activities are technologically driven. Individuals, private, and public organization, entrepreneurs use different technology devices and platforms to achieve desire results, and education inclusive. According to Ahmad & Nisa (2016), "technology means systematic, organized application of scientific or other organized knowledge to practical work". It provides the means by which people work easily, wider coverage, usability of tools, accessibility of information, and collaborations.

Information and Communications Technology (ICT), is a technology that enable communication through computers, mobiles phones, and other electronic devices in textual, audio, visual forms. The technology break barriers associated with information sharing, communication and collaboration. Organizations today hold meetings virtually via teleconferencing. ICT is use in learning and is changing how teaching and learning takes place. It has created what we can call smart education.

The technology used in learning is refers to as Educational Technology. According to Lazar (2015), "Educational technology is a systematic and organized process of applying modern technology to improve the quality of education". It is a well-planned way in which learning takes place through the help of computers and other electronic devices. It is an innovative way of achieving educational goals by contemporary teaching techniques. It includes design and production of teaching/learning materials through guided process for the overall achievement of the educational goal of the learner. ICT and Internet have changed and add meaning the traditional educational technology, and encouraged creativity. Ideas from different areas of specialization be it education, science, social science, arts, or management can blend to address basic, and fundamental issues of learning, and teaching through the ICT oriented Educational technology.

Educational technology aims at ensuring efficiency, and effective practices in the pedagogy for the betterment of education. This technology can Technology as a tutor that computer doing the work of an instructor, giving guide and instruction to learner, it can act as teaching and learning aids as well. Depending on the use and benefits, the research by Lowther et al., (2012) suggested that education technology has not yet taken its place. Contrary to that opinion, ICT has revolutionized education technology. Students do not need depend on schools to provide them with these teaching/learning as long as they have mobile phones which most do have. According to Gutnik et al., Rideout (2011) , children use modern technical equipment from an early age ,so their coming in with new educational technologies will not be a problem.

This paper aims is to draw the attention of all state holders in education especially parents on the need to encourage their children to take advantage of mobile learning to retrieve numerous educational resources available on the Internet especially in a difficult time like this; to keep them busy and up to date with academic activities. Even though there are many gadgets for educational technology: radio, television, compact disc (CD), computers, portable mobile devices, the paper emphasis is on the significance of learning through mobile devices specifically smart phones as educational technology hardware.

➢ *What is Mobile Learning?*

In the time past, learning in school is confine in the classroom only where teachers/ Instructors dominate and monopolizes knowledge. Learning of this nature is said to be one directional and teacher's centered, a situation where students contribute little or not in the class experience. Students do assignments by visiting bookshelves in the library and submit. Where there are no enough books in the shelves, the available ones are on first to come, first serves basis. An act that easily damage books. Dictionary usage was another issue. Most libraries do not have enough dictionaries that students can use when reading, and only few can avoid to buy. These are few of the challenges that mobile technology has help in addressing.

Human beans quest for solutions to learning issues can be traced back memory lent applying technologies to learning activities (Fok, 2012), from adopting paper in ancient times, to the introduction of computers and computer-assisted tools for e-learning. The recent development of mobile and wireless technologies opened up new possibilities in knowledge acquisition and learning experience (Yang, Hwang, Hung, & Tseng, 2013). Introduction of mobile and wireless technologies gave birth to mobile learning also known as called m learning. Different scholars define mobile learning differently John (2005), defined Mobile learning as 'any educational provision where the sole or dominant technologies are handheld or palmtop devices'. Also Cavus and Ibrahim (2008) defined mobile learning as learning that occurs with the help of portable electronic tools, and Dyson & Litchfield (2011) ,viewed it as learning by mobile technologies. Technology and portable electronic devices are what come to mind when talking about m learning. Therefore, it is learning supported by various technologies and their devices for effective learning experience.

Mobile devices such as Phones are the means through learner accesses vital information from the Internet. Sharing ideas, teamwork, and collaborations is becoming easier and simplified with these devices. According to Martin, Diaz, Plaza, Ruiz, Castro, and Peire (2011), the proliferation of mobile phones has now turned them into important tools to complement both formal and informal learning. The exponential increased in the use of mobile phones have been accompanied by a growing interest in the educational benefits and applications they offer (Botha & Cronje, 2007). Mobile devices now support learning anywhere and anytime, support social learning and knowledge sharing. Gloria, Adele & Olalekan (2012), asserted that mobile learning is accessible at any time and any place to support performance. It is the delivery of learning to students anytime and anywhere through the use of wireless Internet and mobile devices, including cell phones, personal digital assistants, smartphones, and digital audio players. That is to say; mobile learning users can interact with educational resources when away from their normal place of learning. (Wang et al. 2009).

➢ *Summary of the Benefits of Mobile Learning*

- It saves students from the burden of carrying heavy textbook
- Learning using technology breaks distance barriers. Students can take lessons anywhere.
- Technology can do students' performance assessment instantly
- It allows larger collaborations among student, and between students and teachers/instructors.
- The feedback provides instant motivation to improve performance
- Students, classrooms or even schools connect to anyone in the world instantly. Smartphone Internet accessibility allows globally connection of people.

II. SMARTPHONE FOR LEARNING

Rouse (2019), define A Smartphone as a cellular telephone with an integrated computer and other features not originally associated with telephones such as operating systems, web browsing, and the ability to run software applications. Croop (2008), viewed it as a" wireless telephone that uses radio waves to connect to a radio antenna that provides telecommunication within a small geographic range called a cell". Smartphone is a small, portable hand held device with operating system, RAM mostly embedded that uses radio waves to provide communication and to run other software applications. According to Thornton (2009), "Most phones can run small Java programs, android, some phones can display Flash animations or electronic books, some include digital voice recorders and small video cameras, and some can display and record TV broadcasts". Today, Smartphone have grown from being a device for making calls and sending

text messages, to a very powerful tool; capable of carrying out complex functions that personal computers and laptops do. According to(Hartnell and Heym 2008), "students can use phones for many purposes such as photography, Bluetooth project material between group members, receiving SMSs, and email reminders from teachers". Also using Smartphone learners can connect remotely to school learning platforms, recording readings from teachers, and accessing revision sites on the Internet. More so, they can receive lectures online, download learning materials in any form (video, texts or audio) that they learn anywhere, and anytime they want. Looi, Seow, Zhang, B., Jeong So, H., Chen, W., & Wong, L. (2010), opined that phones are used not only for making calls but also for taking pictures and uploading them to the social media website, creating mobile blogs, or accessing the web on the move. Pachler (2010) "asserted that the use of these mobile technologies facilitates collaboration, and learning in both formal and informal settings with peers, friends, and family unrestrained by time and location".

III. WHY USING SMARTPHONE?

➢ *Easy Access to an App Store*

Smartphone run various applications software for education. It provides features especially the multimedia capabilities in lectures content creation and dissemination for use by students. Smartphone best feature is its connection to an app store. An app store is an app that enables a user to find software, and install it on their computer or mobile device (computer Hope, 2019). It is a collection of free and commercial software, approved for use on the device. An app store is a centralized portal where users can search for and download software applications to run on their phone (Rouse, 2019). A typical app store offers numerous mobile apps for education, gaming word processing, note-taking, social media, etc. some of the features are summarized as follows:

- Internet connectivity
- Mobile browser
- The ability to download applications and run them independently
- Support for third-party applications
- The ability to run multiple application simultaneously
- The ability to synchronized more than one email account on a device

➢ *Low data rate subscription and consumption*

Telecommunication industries have as the result of competitions, subsidies data subscription such that with as little as N100, certain megabytes of data are purchase, and will be enough for one to do basic activities such as browse download and chat via the Internet.

➢ *Affordability and Portability Smartphone*

Most Smartphone are affordable. With little amount of money, one gets phone either new or what is known as "London Used" (fairly used). This availability and affordability are among reasons why many students have and are using Smartphone. Adenya & Oyeyinka-Oyelaran (2002) observed that Educational institutions have witnessed a substantial increase in the effective use of mobile phones by students in recent times. Many students rightfully owned Smartphone appropriate mobile-learning devices because. Most learners own one and because they have many useful functions that can make learning enjoyable. Smartphone are portable. Portability was what gave laptop a plus over desktop PC in the past where most users preference laptop to desktop just a singular reason that it is movable and can retained battery charge. The same reason is giving phones advantage over laptop PCs. " For many students today, mobile phones have become an important way to keep in touch with friends" (Kiernan & Aizawa, 2004, p. 71). Therefore, Cavus & Ibrahim (2008) emphasized that the widespread use of mobile phones among students has led us to take into account how this technology might help us to improve the motivation of students and help in teaching and learning.

➢ *Independent Learning*

We know that students' assimilation is not the same. Some students are fast learners; they pick what teacher says fast and build on what they have learned while others are slow learners who cannot sufficiently mastered learning material. With smartPhoone, students can independently progress in mastering teaching materials, choosing the pace of work, time to repeat the material that is not very clear, that after tests performed immediately get results and track their progress. Interactive, multimedia content provides a great advantage of modern learning over traditional learning. The application of mobile technology allows feedback between the teacher and the student. The feedbacks enables teacher understands each student needs and peculiarity. There are some major differences in the use of educational technology and traditional teaching. (Dynarski et al. 2007; Kulik, 2003), and research at the Center for Educational Research in Pittsburgh within Individually Prescribed Instruction showed that computers are better tailored to the individual abilities of students, rather than teachers themselves.

IV. CHALLENGES

Technology has come to stay, and it advents in the school setting is still posing challenge to many educators. There is a problem of teachers not integrating educational technology in the classroom. Some cannot use even projector during lesson delivery, not mention searching, accessing and using other educational tools and apps such as canvas, googlemeet, or do a basic video clips for teaching etc. Several research papers revealed that only small number of teachers integrate educational technology in their teaching activities (Becker, 2000; Hermans et al., 2008; Stošić and Stošić 2013; Wang et al., 2004). This can attribute to the fact that teachers understanding of ICT and educational technologies differs. Some have deep knowledge of what it is, how it works and are using them. Other think they do not know anything about ICT and need training. Lack of staff development on the use of ICT gadgets in teaching is contributing greatly in discouraging teachers from integrating educational technology in class. In addition, poor equipments, resources, necessary for

effective lesson delivery that technologically based is also a challenge.

However, understanding and the use of ICT require deliberate quest, and curiosity to learn basic computer operations which mobile phone technology has simplified. You do not need computer because smartphones do virtually most, if not all that computer do. Teachers and learners must understand the fundamentals of ICT gadgets and their uses. This is achievable by simple search in the search engine available on Smartphone. Search engine will search and display answer beyond one imaginations; any form the searcher wants it. What this entails is that one does not need to pay for someone or travel distance to learn.

V. CONCLUSION

In this paper, I explored educational technology, mobile and Smartphone as tools that can serve purposeful, teachers and learners learning goal in education. Teachers integrating technology in learning, is now a must owing to the challenges bedeviling the education system as the result of the pandemic? However, preparing educational material is one thing, and having them available for use is another. The idea behind the introduction of educational technology is to make learning simple and easy through the production of educational resources in every form possible; visual, textual, video, printed with the aid of computers, phones, and other electronic devices. The Smartphone is one of the best education technology tool teachers can use to produce lectures content learning materials at their convenience and disseminate to students. Students can use this technology to access learning resources of any form, read and re-read at any time, collaborate and share ideas with others; teachers and students elsewhere.

The stay at home and the closure of schools do not and cannot stop learning. Learning can still take place either in real-time or in offline. Where the real-time is not possible to achieve, teachers should prepare learning material either textbase in pdf format or create short video clips and upload them online via schools' websites so that students can access them.

RECOMMENDATION

Smartphone are appropriate mobile-learning devices because most learners own one and because they have many useful functions that can make learning enjoyable and considering what the world is battling with today, which brought academic activities to stand still and we cannot afford to keep students for long at home without providing an alternative. Therefore, I recommend as follows:

- Universities, polytechnics, and colleges should introduce a virtual class system where lessons can take place via teleconferencing. This will help keep students busy with academic activities.
- Where the above mentioned is not possible, teachers should prepare learning materials either text base in pdf format or create short video clips and upload them online via schools' websites so that students can access them.
- Parents should encourage their children to make use of their phones to access, download, and use learning materials available online in their area of study.

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