

**RESEARCH PAPER****Effective Utilization of Mobile Technologies Devices for Teaching and Learning in Secondary Schools in Ondo State, Nigeria****Ayelaagbe Sina Opeoluwa**Department of Educational Technology,
Adeyemi College of Education, Ondo, Ondo State, Nigeria
Email: oayelaagbe@yahoo.comReceived: 3rd January 2017, Revised: 20th January 2017, Accepted: 24th January 2017**ABSTRACT**

This study investigated the effective utilization of mobile technologies devices for teaching and learning in secondary schools in Ondo State, Nigeria. The study employed survey research design. The sample population comprises of 20 teachers and 100 students drawn from four public secondary schools in Ondo West Local Government Area of Ondo State. The study was guided by three research questions. The two instruments used in the study were: Mobile Technologies Devices for Teaching and Learning (MTDL) for students and for teachers respectively. Data was also analysed with the use of simple percentages, mean and standard deviation. Findings of the study revealed that teachers in secondary schools do not utilize mobile technologies devices for teaching in the classroom and that students do not utilize the mobile technologies devices for learning. Lastly, when mobile technologies devices were used by teachers to teach the students, it motivated the students to learn better and effectively. It was concluded from this study that if mobile technologies devices were used in all its ramifications it would increase and motivate students to learn better. Finally, it was recommended that teachers should endeavour to utilize mobile technologies devices in the classroom and students should be monitored when utilizing mobile technologies devices for learning.

Key words: Mobile technologies devices, Utilization, Teaching and learning, Secondary schools and Mobile phone

INTRODUCTION

Mobile technologies are the newest, very portable, handheld devices that have pervasive features of everyday life. Mobile technologies devices are used by a large number of people for business, and social purposes. Nowadays, the reach of mobile technologies has extended to educational contexts. Specifically, mobile technologies are considered as potential teaching and learning tools both within the classroom and beyond. The appearance of these devices as possible technologies in educational setting is due to sudden and substantial uptake of mobile technologies throughout society as well as the technological advances that have moved mobile technology from relatively limited devices to complex and flexible tools. The functions of mobile devices available through Information Communication Technologies (ICTs) have increased seriously from their outset as simple call-only devices to current versions which include functions allowing the user to text, email, access to internet, as well as utilize an array of multimedia services and applications that allow the user to personalize the use of the devices (Legebvre, 2009). The popularity, affordability, portability and flexibility of such devices made educators considered integrating these devices beyond the classroom for educational purposes (Liu, 2007).

The potential for learning with mobile technology has been equated with 21st century learning skills. Although, multiple components constitute 21st century learning skills many frameworks identify creativity, collaboration, construction of knowledge and an inquiry approach to learning (Dede, 2010) as key or important components. Mobile technologies also provide the opportunity for skills (Paris & Paris, 2001). Self-regulated students know how to learn and are equipped with the cognitive skills and tools that allow them to learn. In the learning skills repertoire of self-regulated learners that make them effective learners, is their desire to learn that is, they are intrinsically motivated to learn. Also, they acquire and possess high domain knowledge, as well as a

variety of sophisticated strategies that allow them to learn effectively and efficiently (Wood & Kraftcheck, 2003).

Mobile technologies that can be effectively used in educational institutions are: Black Berry (Wood, Mueller, DePasquale & Cruikshank, 2011) in a recent study examined the introduction of the Black Berry device in as a new teaching and learning tool for adult learners in a higher education, graduate level, business program. Also, ipod can be used in the classroom as a reference tool, curriculum resources, research tool and strategic learning tool (Ayelaagbe, 2016).

Various studies carried out indicated that mobile technology made learning more engaging than books and teacher directed instructions. Some students indicated that the tool created social isolation in that everyone is looking down at the little screen and it is very quiet when the ipods were in use, while other students indicated that students were excited to share what they were doing and what they found on the ipods (Chen & Kinshuk, 20005).

With numerous technologies available, teachers and students can access multitude of information and make use of it, exploring their potential. The use of these technologies in the classroom provides a closer relationship between the teacher and student. It promotes their interaction and leads to a joint and more active learning. The constant presence of tools awakens in students' greater interest in looking for new ways allowing a larger and more consolidated acquisition of knowledge (Costello, 2010). ICTs developments, especially mobile technologies has revolutionized the world recently, and devices such as tablets, available since 2010, have gained popularity quickly among the public and in various age groups (Schnackenberg, 2013) that is impossible not to try to imagine what such device can lead to being introduced into the education.

The advent and utilization of mobile technologies has led to the emergence of the concept of Bring Your Own Device (BYOD). BYOD emerged in 2007 in a business context as the practice of allowing employees of an organization to use their own computers, smartphones or other devices for work purposes (Oxford Dictionaries, 2013). Such a practice exceeded organizational barriers and started widespread use.

According to literature the use of mobile devices for educational purposes using different methods and devices has been conducted around the world. All across the globe, students from elementary school through the high school are increasingly engaging with advanced wireless to collaborate with peers, access rich digital content, and personalize their learning experiences. Always-on, always-connected, smartphones and tablets provide today's students with a ubiquitous gateway to a new ecosystem of information, experts, and experiences, regardless of the physical assets and resources in their own communities (Baran, 2014).

Bebell & O'key (2010) examined four different empirical studies of laptop programmes in school. They discovered that in most schools participating in one-to-one programmes there were significant increases in grades-point averages or standardized tests of student achievement relative to schools that did not provide such programmes. Also, they found that most students used their laptops to write, browse the internet, make presentations, do homework, or take tests. Furthermore, teachers made mere changes to their teaching methods when they had increased opportunities to use laptops. Students participating in one-to-one programmes also had a deeper engagement with what they were learning when compared to control groups.

Wood, Jackson, Hart, Plester, Widde (2011) investigated the influence of mobile devices on seamless learning. Seamless learning refers to a learning model that students can learn whenever they want to learn in a variety of scenarios or one context to answer easily and quickly. Ayelaagbe (2016) conducted a study on the use of mobile phone application on academic performance of adult literacy learners. And from the study it was revealed that the use of mobile phone application increased and motivated adult literacy learners to acquire knowledge on basic literacy and numeracy skill using mobile phone as learning tool in their various literacy centres in Ondo State, Nigeria.

UNESCO (2012) in its research study indicated that mobile technologies can improve professional development and teacher training in the following ways communication, mobile devices can be used in conjunction with wireless broadband and video call services like skype to facilitate communication between teachers and students. It can also be used for self-assessment video cameras can be used to record lessons, allowing teachers to reflect on their teaching practice and

identity specific areas for improvement. Lastly, mobile technologies can be used for innovation, it can be used in teacher education programmes to challenge teachers to think creatively about mobile learning and develop the confidence to try new ideas (UNESCO, 2012).

Douch, Saill, Parker & Attewell (2010) opined that mobile technologies are used to support the teachers in administrative tasks like posting grades/scores, disseminating information about class time table, examination dates and in primary and secondary schools, communicating with parents about school events field trips and student attendance and behaviour. Also, mobile technologies can be used to support instruction both in the classroom and beyond (Ayelaagbe, 2016)

OBJECTIVES

1. Investigate if teachers in secondary school used mobile technologies devices for teaching.
2. Find out the extent to which students learn through the use of mobile technologies devices.
3. Determine if students are motivated when mobile technologies are used.

RESEARCH QUESTIONS

1. Do teachers in secondary school use mobile technologies devices for teaching?
2. To what extent students learn through mobile technologies devices?
3. Are students motivated when mobile technologies devices are utilized for learning?

RESEARCH DESIGN

The survey research design was employed for this study. This research design was employed because information was elicited from students and practicing teachers in secondary schools in Ondo West Local Government Area of Ondo State..

POPULATION AND SAMPLING

The population of the study was all the students and teachers in secondary schools in Ondo West Local Government Area of Ondo State regardless of gender and class, 20 teachers and 100 students were randomly selected from three secondary schools in Ondo West Local Government Area of Ondo State made up the sample.

INSTRUMENT FOR DATA COLLECTION

The instrument named "Mobile Technologies Devices for Teaching and Learning" (MTDTL) questionnaire was used for data collection. The instruments for this study are two; one for students and the other for teachers respectively. The teachers' questionnaire had two sections, section A sought information on teachers personal information and section B had 10 structured items which was researcher constructed. The questionnaire for students also had two sections, section A contains personal information and section B had 12 structured items on effective use of mobile technologies for teaching and learning. The MTDL was rated on a 4-point likert-scale of Strongly Agree = 4, Agree = 3, Disagree = 2 and Strongly Disagree = 1. The decision rule is 2.5 – 4.00.

The researcher administered the two questionnaires to the students and teachers in secondary schools with the help of three trained research assistants. The completed instruments were collected back immediately to ensure 100% returns of the questionnaire. A total number of 20 for teachers and 100 for students' questionnaires were completed and returned.

VALIDATED AND RELIABILITY OF THE INSTRUMENT

The face and content validity of the instruments was determined by two lecturers in Department of Educational Technology, University of Ilorin, Kwara State. A reliability co-efficient of 0.79 was obtained using Cronbach Alfa method.

METHOD OF DATA ANALYSIS

The data collected was analysed using simple percentage, mean and standard deviation.

RESULT

RESEARCH QUESTION 1: Do teachers in secondary schools use mobile technologies devices for teaching?

Table 1: Teachers' use of mobile technologies for teaching

S/No	Item	Mean	Std.D	Decision
1.	I use mobile technologies devices to teach basic concepts in my classroom.	1.65	.49	Disagree
2.	I am efficient when using mobile technologies devices for teaching.	1.65	.49	Disagree
3.	Population of my classroom hindered the use of mobile technologies devices for teaching.	2.50	.61	Disagree
4.	My students usually go online through the use of mobile technologies devices for learning	2.50	.61	Disagree
5.	Assignment are giving to students to be submitted online through the use of mobile technologies devices.	1.70	.54	Disagree
6.	Subjects notes are send to students online.	1.55	.51	Disagree
7.	Mobile technologies devices has assisted Teaching in the classroom.	1.55	.51	Disagree
8.	Online platform are created to make students acquire more knowledge in the class.	2.00	.73	Disagree
9.	Materials are downloaded using mobile technologies devices by student on school's subjects.	2.35	.88	Agree
10.	Through the use of mobile technologies devices, teachers always consult online materials for learning.	1.80	.83	Disagree

RESEARCH QUESTION 2: To what extent students learn through mobile technologies devices?

Table 2: Students' Learning through Mobile Technologies Devices

S/No	Item	Mean	Std.D	Decision
1.	You are always on social network to learn more in the classroom.	1.57	.62	Disagree
2.	Students processes at least one mobile technologies devices for learning.	1.62	.68	Disagree
3.	Assignments are done through the use of mobile technologies devices in the classroom.	1.67	.67	Disagree
4.	Notes are prepare through the use of mobile technologies devices.	2.13	.99	Disagree
5.	Students processes laptop used for learning	2.70	1.03	Disagree
6.	Using mobile technologies devices improve my academic performance in the classroom.	1.86	.80	Disagree
7.	Using mobile technologies devices is Compulsory in my class.	1.86	.80	Disagree

RESEARCH QUESTION 3: Are the students motivated when mobile technologies devices are utilized to teach them?

Table 3: Students' Motivation using Mobile Technologies Devices

S/No	Item	Mean	Std.D	Decision
1.	Mobile technologies devices increases the zeal of students to learn effectively.	3.75	.46	Agree
2.	The use of mobile technologies devices devices such as mobile phones motivates students to participate in the class activities	3.32	.63	Agree
3.	Mobile technologies devices aid students' interaction with their colleagues and teachers in the class	3.32	.70	Agree
4.	Mobile technologies devise enables students to Learn effectively in the class.	3.36	.64	Agree
5.	Attention of students are gotten using mobile technologies devices in the classroom.	3.41	.68	Agree

Table 1 show that secondary schools teachers do not use mobile technologies devices effectively for the teaching of students' subjects. Table 2 indicated that students do not use mobile technologies devices for learning; and Table 3 shows that the use of mobile technologies devices will motivate and get attention of the students in the classroom.

DISCUSSION OF FINDINGS

The findings of this study showed that secondary school teacher do not utilize mobile technologies devices for learning in the classroom. This is in consonance with the findings of UNESCO (2012) that using mobile technologies devices in the classroom by teachers it would challenge them to think creatively and develop the confidence to try new ideas.

Another finding of the study revealed that student do not use mobile technologies devices for learning rather they prefer using the devices for chatting, sending pictures and sending of messages to colleagues. This is in line with the research findings of Baran (2014) who reported that students engaged with mobile devices to send messages, pictures, and chatting rather than academic activities in the classroom.

Also, it was revealed from the study that using mobile technologies devices to learn motivated students to learning effectively. This goes with the findings of Ayelaagbe (2016), Bebell & Kay (2010) and Wood, Jackson, Hart, Plester & Wilde (2011) that when mobile devices are used effectively by students to learn it motivated them effectively to learn without being supervised by teachers.

CONCLUSION

Based on the findings, this study therefore if mobile technologies are utilized effectively in all its ramifications it will increase and motivate the students to learn effectively and better in the classroom and beyond.

RECOMMENDATIONS

Based on the findings of this study, the following are the recommendations:

1. Secondary schools should acquire relevant and effective mobile technologies devices for learning either through Parents Teachers Association or Government.
2. Principals should ensure that there are available spaces for mobile technologies devices centres to take care of the growing population of the schools.
3. The use of mobile technologies devices should be well monitored and supervised by teachers so as not to abuse it for social vices.
4. In-service training and re-training should be organized for teachers to enhance their effectiveness in the use of mobile devices for teaching.
5. Government and principals should show more commitment and concern for mobile technologies devices as means of achieving educational aims and objectives.

REFERENCES

1. Ayelaagbe S.O. (2016): Effect of Mobile Phone Application on Academic Performance of Adult Literacy Learners in Ondo State, Nigeria. A Ph.D Thesis Submitted to the Department of Educational Technology, University of Ilorin, Kwara State, Nigeria.
2. Baran E. (2014): A Review of Research on Mobile Learning in Teacher Education. *Educational Technology and Society*. 7 (4): 17-32
3. Bebell D. and Kay R. (2010): One to one computing: a summary of the quantitative results from Berkshine wireless learning initiative. *The Journal of Technology, Learning and Assessment*. 9-60.
4. Chen J. and Kinshuk (2005): Mobile technology in Educational Services. *Journal of Educational Multimedia and Hyper media*. 14(1): 91-109.
5. Costello P. (2010): A cost-effective classroom response system. *British Journal of Educational Technology*. 1(1): 19.
6. Dede C. (2010): Comparing frameworks for 21st century skills. In J. Bellane & R. Brandt (Eds.). *21st Century Skills: Rethinking How Students Learn*. Bloomington, IN: Solution tree press, 51-75.
7. Douch R., Savill-Smith C., Parker G. and Attwell J. (2010): *Work-based and vocational mobile learning: Making IT work*. London.
8. Letebvre C. (2009): Integrating cell phones and mobile technologies into public health practice: A social marketing perspective: social marketing and health communication. *Health Promotion Practice*. 10(4): 490-494.

9. Liu T.C. (2007): Teaching in a wireless learning environment: A case study. *Educational Technology & Society*. 10(1): 107-123.
10. Oxford Dictionaries (2013): Definition of BYOD in English. Retrieved from <http://www.oxforddictionaries.com/definition/english/BYOD?P=BYODsh>.
11. Paris S. and Paris A. (2001): Classroom applications of research on self-regulated learning. *Educational Psychologist*. 36(2): 89-101.
12. Schnackenberg H.L. (2013): Tablet technologies and Education. *International Journal of Education and Practice*. 1(2): 7.
13. UNESCO (2012): Working paper series on mobile learning for teachers in Europe. Paris UNESCO.
14. Wood A and Kraftchech E. (2002): Mobile learning: A framework and evaluation. *Computers & Education*. 49(3): 581-596.
15. Wood C., Jackson E. Hart L, Plester B, and Wilde L. (2011): The effect of text messages on 9 and 10 years old children's reading spelling and phonological processing skills. *Journal of Computer Assisted Learning*, 27, 28-36. <http://dx.doi.org/10.1111/J.1365-2729.2010.00398.X>.
16. Wood E., Mueller. J., De-Pasquale and Cruikshauk R. (2011) : Adult learners introduced to using mobile technologies in the classroom. Paper Presented at Annual Meeting of Canadian Psychological Association, Toronto, Ontario.

How to cite this article:

Opeoluwa A.S. (2017): Effective Utilization of Mobile Technologies Devices for Teaching and Learning in Secondary Schools in Ondo State, Nigeria. *Annals of Education*, Vol. 3[1]: March, 2017: 1-6.
