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SECONDARY SCHOOL TEACHERS UTILIZATION OF MOBILE LEARNING DEVICES FOR INSTRUCTIONAL PURPOSES IN OSUN STATE

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ABSTRACT: Technology is deeply rooted in the society and adolescents in particular, accept and adopt new technologies quickly. Many different types of technology can be used to support and enhance learning. However, several challenges could limit its adoption in the teaching and learning process. This study therefore (i) determined teachers' utilization of mobile learning devices for instructional purposes; (ii) examined influence of gender on teachers' utilization of Mobile learning devices for instructional purposes; (iii) investigated the difference in teachers' utilization of mobile learning devices based on age; and (iv) determined whether teachers' utilization of mobile learning devices for instructional purposes differ based on qualification. This study is a descriptive research design survey type. 600 teachers were drawn from selected secondary schools in Osun State comprising both public and private schools. The research instrument was vet by six experts in other to ascertain face and content validity of the research instrument. The instrument was pilot tested on 20 secondary school teachers in Kwara state. The data collected was subjected to crombach alpha analysis and the result was 0.78 which made the instrument reliable. The result of the researcher instrument was done with descriptive and inferential statistics. The statistical tests that was used are descriptive analysis involving the percentage for demographic table. Research questions 1 to 4 were analyzed using mean, while t-test for hypothesis 1 to 3. The results of the findings established that most teachers judiciously utilize mobile learning devices for instructional purposes. There was no significant difference between teachers' utilization of mobile learning devices for instructional purposes based on gender, age, qualification and school ownership. The study concluded that the use of mobile learning devices will lead to improvement of instructional purposes. This implies that teachers who use mobile learning devices for instructional purposes will teach better than those who did not. It was however recommended that educational authorities and the school system should encourage the use of mobile learning devices.

Keywords: Mobile Learning Devices, Gender, Qualification, Utilization, Teachers, School Ownership

INTRODUCTION

Education is the process of acquiring knowledge, skills, attitudes, interest, abilities, competence, and the cultural norms of a society by people and to transmit this life to the coming generations so as to enhance perpetual development of the society (Lawal, 2013). Education can be defined, as the process of acquiring knowledge in order to develop cognitively, affectively, psychomotor, socially, and economically. It is the process of nurturing appropriate behavior and skills to develop an individual who will be fit into the society. This means education is a continuous and progressive process which every child in a society must pass through, either by consecutive learning from the lowest level of education to the highest level of education or learning throughout a life span. Education is a fundamental human right which every child is entitled to (constitution of Kenya,2010).

Technology is deeply rooted in the society and adolescents in particular, accept and adopt new technologies quickly. Consequently, several researchers encourage their integration in the classroom aiming to capture the interest with something that can enhance learning, since several studies indicate a positive correlation between the use of technology and learning. The mobile technologies include Tablet PCS, Laptop computer, Blackberry, MXI, Android, IPads, IPod, Personal Digital Assistance, Palm OS and Apple IOS. Therefore, teachers are expected to use technology in the teaching and learning process in order to capture the interest of students. Mobile technologies and devices, with their innate versatility gives students the opportunity to progress in the teaching and learning process. Many different types of technology can be used to support and enhance learning. Everything from video content and digital moviemaking to laptop computing and handheld technologies have been used in classrooms. Similarly, new uses of technology such as pod casting are constantly emerging (Marshall, 2014). Various technologies deliver different kinds of content and serve different purposes in the classroom. Word processing and e-mail promote

communication skills; database and spreadsheet programs promote organizational skills; and modelling software promotes the understanding of Science and Mathematics concepts.

Globally, ICT has initiated a transition from analogue to digital operations in all aspects of human endeavour making it possible for a lot of activities to be carried out speedily, easily and accurately (Justina, Faben& Michael, 2018)[58]. The use of ICT gadgets may enhance professional growth speedily and lecturers who use computer system to work may gain quicker access to study materials through the internet. Similarly, the use of internet to access journals, periodicals, magazines, inaugural lectures, conference papers and so on may help lecturers to grow fast on the job (Effiong &Effanga, 2018). It is important to consider how these electronic technologies differ and what characteristics make them important as vehicles for education (Aubusson, 2015). Technologies available in classrooms ranges from simple tool-based applications (such as word processors), to online repositories of scientific data. Others are primary historical documents, handheld computers, closed-circuit television channels, and two-way distance learning classrooms. Prensky (2015) asserts that even the cell phones that many now carry with them can be used to learn.

Mobile learning refers to the delivery of learning to students anytime and anywhere through the use of wireless internet and mobile devices, including mobile phones, personal digital assistants (PDAs), smart phones and digital audio players. Mobile learning provides an atmosphere that takes learning outsides the classroom and even remote areas, the wireless connections of mobile devices is not restricted by location and time which enables interaction, completion of assignment and task at anytime and anywhere, it can also create a platform where the teacher can access materials and interacts with the students via chat forums (Ifinedo,2013). Mobile learning devices have evolved in different ways and directions since the first decade of the 2000. According to Baran (2014), the evolution of these

definitions has mainly highlighted mobile learning devices positive characteristics such as mobility, access, immediacy, situativity, ubiquity, convenience, and contextually. These different emphases reflect the expected but also the unexpected impacts of the introduction of these digital technologies in the learning process. The use of mobile technologies is changing the way people live and how we access education. One clear development is a blurring of our social, business, learning and educational lives as the pattern of our communication and interaction across time and space changes (Dewey, 2008). Internet access anywhere and anytime is a human right for citizens and have set goals to establish the infrastructure to allow access by all, which will facilitate the use of mobile technology in education. There is great potential for mobile learning devices in developing countries, but careful planning is required for mobile learning devices to be successful (Traxler, 2013).

The use of mobile devices has become common among a wide range of age groups due to affordability and availability (Newhouse, Williams, & Pearson, 2006). In mobile learning devices, learning is not confined to the physical learning environment, rather, it can take place anytime and anywhere. Mobile devices show a dramatic departure from old-fashion of computing platforms as they no more represent a static or fixed notion of context, where changes are small, absent, or predictable. Technology mounts pressure on learners by challenging what they know and how they come about the knowledge. Learners are often disorientated when confronted with epistemological challenges during first encounter with Learning (Pachler& Daly, 2011). Because the existing pedagogy is traditional based, often characterized by memorization, teachers will be constructive challenged on application of acquired knowledge. A typical example is Khan academy software, which uses a combination of animated videos and interactive text, to teach subject topics on a case by case basis.

Availability of mobile learning tools in the classroom, because of the new electronics devices that offer portability and ease of use on a budget. The mobile devices tools include, Apple IOS, Netbooks, ipas, Smart phones, ipods, e-readers, Tablets PCS and even Personal Digital Assistance (PDAS). Recent research on use of various mobile devices in classrooms have revealed positive learning outcome for its use in the classroom. Students are generally positive in using mobile learning which is the essential for 21st century education (Wylie,2012). These devices enable students to control their individual learning and allow learners to switch learning contexts conveniently from formal to formal or personal to social. It keeps students engaged, attentive and motivated and allows interaction with the devices. There is evidence that mobile devices have encourage independent learning making it easy for teachers to differentiate individual students needs and share resources with students and among each other. Mobile devices are easy to use and attractive. These devices have larger screens, variety of apps, audio, video recording software, higher processing and battery power. Research on tablet use and adoption reports that electronic devices have a positive impact on students' engagement with learning (Mango,2015).

Teachers can create interactive presentation, which include students' observations and comments. Teachers can give lessons, monitor progress and stay organized. Application help students and teachers put together professional-looking documents, presentations and spreadsheets no matter where they are. Teachers can directly write notes using these mobile devices during interactive discussion and these can be displayed on a projected screen for students. These notes can be saved, modified, uploaded, and can be helpful to students who miss anything. There is emerging evidence to suggest that apps have a significant potential to support the learning process (Shuler,2014). Abdulazeez (2014) opined that gender issues have been associated with ability, skill and competence of teachers and students to use mobile devices but without any definite conclusion. Vast numbers of

study have been carried out to determine if gender difference can serve as a factor to integration and utilization of mobile devices for instructional purposes. In a research study carried out by Kubiatko, UAsak,Yilmaz and Tasar (2019) to investigate gender difference in perceptions of prospective teachers about the utilization of mobile devices for teaching, it was found that males had significantly more positive perceptions effectiveness in utilizing mobile devices than females.

Statement of the problem

Generally, the utilization of mobile devices for learning is fraught with certain challenges. For instance, studies have revealed that mobile devices have encountered usability problems (Park, 2011). Kukulska-Hulme, (2009) classified these problems into four groups including physical attributes, software application limitations, network connection, and physical environmental issues such as: small screen size, not enough memory, short battery life, difficulty of adding applications, lack of built-in functions, the different usage between application and circumstances, lack of user competence, speed and reliability network and problems with using mobile devices outdoors such as when it is raining, screen brightness, privacy. Rosman, (2008) adds input capabilities, limited processing power, and smaller screen size as examples of such quite traditional challenges of Mobile Learning devices. Several authors hold the view that screen size, battery life, the fact that the power of an embedded web browser is not adequate or that the software does not integrate well are main limitations of Mobile Learning (Huang, 2008). Thus, this study seeks to investigate the assessment of secondary school teachers utilization of mobile learning devicesfor instructional purposes in Osun State.

Purpose of the study

The main purpose of this study is to examine the assessment of secondary school teachers' utilization of mobile learning devices for instructional purposes in Osun State. Specifically, this study

1. determined teachers' utilization of mobile learning devices for instructional purposes
2. examined influence of gender on teachers' utilization of Mobile learning devices for instructional purposes.
3. investigated the difference in teachers' utilization of mobile learning devices based on age.
4. determined whether teachers' utilization of mobile learning devices for instructional purposes differ based on qualification

Research Questions

This study attempted to answer the following questions

1. How do teachers utilize mobile learning devices for instructional purposes?
2. What is the influence of gender on teachers' utilization of mobile learning devices for instructional purposes?
3. What is the difference in teachers' utilization of mobile learning devices based on age?
4. Do teachers utilization of mobile learning devices for instructional purposes differs based on qualifications?

Research Hypotheses

The following Hypotheses were tested in this study

H_{O1}: There is no significant difference between male and female teachers' utilization of mobile learning devices for instructional purposes

H_{O2}: There is no significant difference in teachers' utilization of mobile learning devices for instructional purposes based on age

H_{O3}: There is no significant difference in teachers' utilization of mobile learning devices for instructional purposes based on qualification.

H_{O4}: There is no significant difference private and public teachers' utilization of mobile learning devices for instructional purposes.

Scope of the study

This research was carried out in Osun State. The secondary school selected for the study were all inclusive of public and private schools, so as to give room for varied opinions and disposition of the respondents. Purposive sample technique was used to select thirty secondary schools that allow the researchers to conduct research in their schools and then twenty teachers were randomly selected across each school. The study methodology adopted the use of the survey method and a structured researcher developed questionnaire was used for this study.

Literature Review

Education has been considered as a vehicle for social change and a powerful tool for social, economic, political and technological development of any country. Education is also viewed as a life-long process which is not limited to formal schooling instruction but it involves all life experiences. In essence, it is a process by which individuals within a particular community improve their well beings and their community. Balogun (2013), submitted that, there is a need to adequately train teachers, because teaching is modeling and poor teachers tend to reproduce their own kind. Mobile learning devices is the ability to obtain or provide educational content on personal pocket devices such as PDAs, Smartphone's and mobile phones. Educational content refers to digital learning assets which includes any form of content or media made available on a personal device. Mobile learning devices has been defined by a number of researchers. O'Malley, Sharples (2003) defined mobile learning devices as any sort of learning that happens when the learner is not at a fixed, predetermined location, or learning that happens when the learner takes advantage of the learning opportunities offered by mobile technologies. Parsons and Ryu, (2016) defined mobile learning devices as the delivery of learning content to learners utilizing mobile computing devices. Mobile learning devices has also been described as an extension of e-learning. Geisert and Futrel

(2014) observe that the use of Information and Communication Technology (ICT) for assessment facilitate teaching.

Gender is the condition of being male or female. Gender implies the psychological, behavioral, social, and cultural aspects of being male or female (I. e masculinity or femininity) (American psychological Association, 2012). Abdulazeez (2014) opined that gender issues have associated with ability, skill and competence of teachers and students to use ICT but without any definite conclusion. Vast numbers of study have been carried out to determine if gender difference can serve as a factor to integration and utilization of ICT for instructional purposes. Teachers' age and qualification are different on individual perception therefore, even if some teachers have adequate technology and support they may not exuberant enough to implore the technological tools and gadgets for class instruction (Riaka, Hiltunen & Vesisenaho, 2104). Riaka, (2014) stated a notable determinant of teachers utilization of mobile devices is their level of confidence in using technology.

METHODOLOGY

This study is a descriptive research design survey type. A researcher developed questionnaire was used to elicit information on the assessment of secondary school teachers' utilization of mobile learning devices for instructional purposes in Osun State. The population for this study were secondary school teachers in both public and private secondary schools in Osun state. The target population were 600 teachers specifically drawn from selected secondary schools in Osun State. The selected teachers from secondary schools in Osun state enabled the researchers to capture enough teachers for the study. This selection was made so as to include most teachers in Osun state for the study based on public and private schools. The researcher developed questionnaire tagged " Secondary School teachers' Utilization of mobile learning devices for Instructional Purposes in Osun State. The questionnaire was structured in a simple and clear language to enable teachers provides

relevant answers to the questions based on personal view. The questionnaire contained two Sections: Section A centered on the personal information such as the respondents' gender, Name of the school, school type, age and qualification. Section B consisted of 10 items on the utilization of mobile learning devices for teaching.

The research instrument was given to six professors and Readers in the Department of Educational Technology, University of Ilorin, in other to ascertain face and content validity of the research instrument. The validity was done to determine the appropriateness and suitability of the research instrument to measure the phenomenon under consideration for which the study intends to measure after which the corrections made were used to improve the quality of the instrument. The instrument was pilot tested on 20 secondary school teachers in Kwara state. The data collected was subjected to crombach alpha analysis and the result was 0.78 which made the instrument reliable. The researchers personally visited the schools where the questionnaires were distributed to teachers with the permission and assistance of the principal of the schools. The copies of questionnaire responded to by teachers after the explanation of the purpose of the study by researcher. The researchers sought for their cooperation and sincere participation in the study. Thereafter, the researcher retrieved the filled copies of questionnaires. However, the respondents were not cohersed to participate in this study. The result of the researcher instrument was done with descriptive and inferential statistics, after coded and analyzed using Statistical Products and Service Solution (SPSS) version 25.0. The statistical tests that was used are descriptive analysis involving the percentage for demographic table. Research questions 1 to 4 were analyzed using mean, percentages and t-test for hypothesis 1 to 3. All were tested at 0.05 level of significance.

DATA ANALYSES AND RESULTS

This chapter presents the analysis and results obtained from the data gathered based on research questions stated in the study. The data

presented provide a summary of the major characteristics of the respondents that were involved in the study. A total of 600 copies of questionnaires were distributed but 457 were retrieved, properly filled and was rendered valid amounting to 76.2% return rate. This was thus used for the analysis.

Demographic Information

Table 1: Demographic Distribution by Gender

Gender	Frequency	Percent	Cumulative Percent
Male	212	46.4	46.4
Female	245	53.6	100.0
Total	457	100.0	

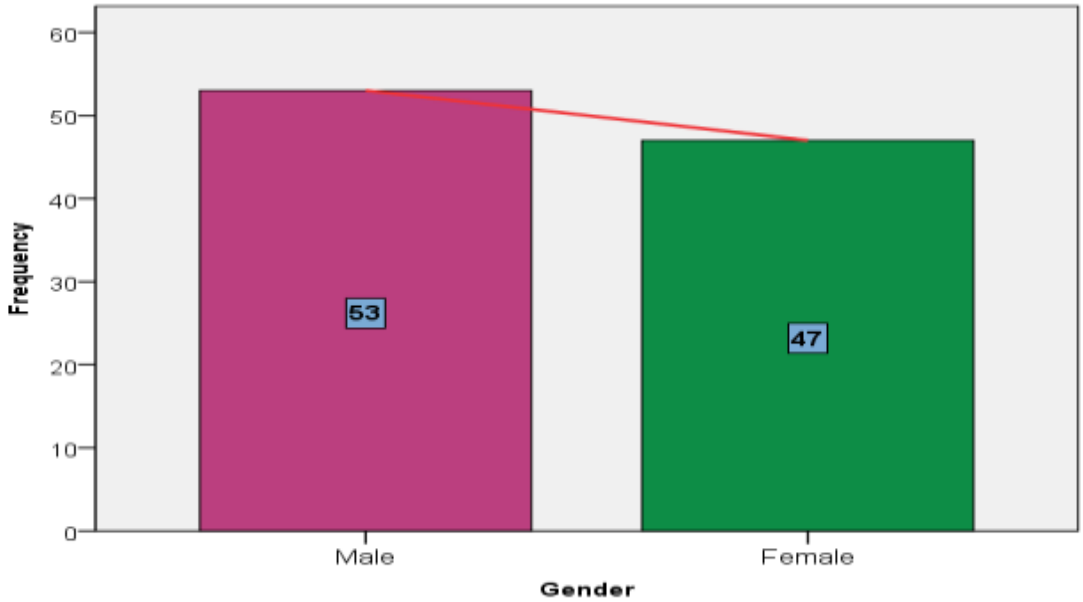

Figure 1: Chart on Respondents' Gender

As displayed in table 2, the female respondents were more than their male counterparts. This was further shown in figure 1.

Table 2: Respondents' Information based on School Type

School Type	Frequency	Percent	Cumulative Percent
Private	183	40.0	40.0
Public	274	60.0	100.0
Total	457	100.0	

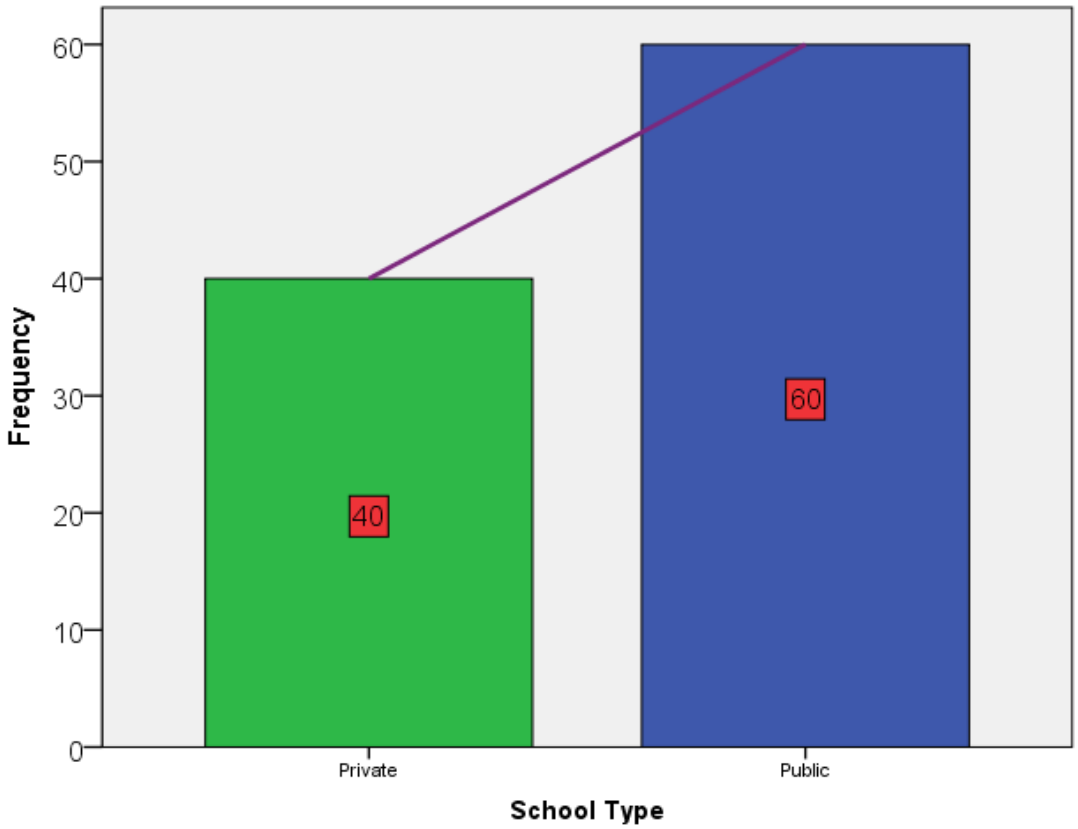

Figure 2: Chart on Respondents' School Type

Respondents' Information based on school type was presented in table and figure 2. It indicated that respondents from public owned schools are 60% while their counterparts from private owned schools were 40%.

Table 3: Respondents' Data based on Age

Age	Frequency	Percent	Cumulative Percent
46 Years and above	78	17.0	17.0
36-45 Years Old	288	63.0	80.0
25-35 Years Old	91	20.0	100.0
Total	457	100.0	

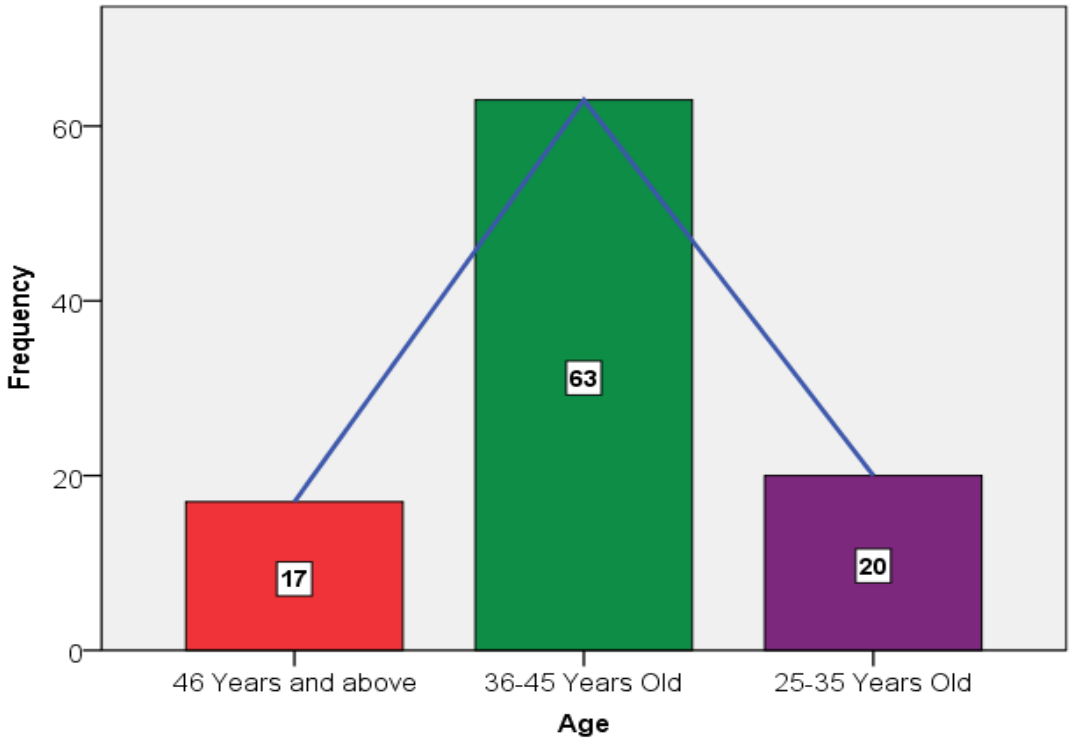

Figure 3: Chart on Respondents' Age

Respondents' age was presented in table and figure 3. It indicated that 20% of the respondents are within the age range of 25-30 years, 63% of the respondents are within the age range of 36-45 years and 17% of the respondents are within the age range of 40 years and above. This shows that most respondents are within the age range of 36-45 Years.

Table 4: Respondents' Data based on Qualification

Qualification	Frequency	Percent	Cumulative Percent
M.Sc.	50	26.1	26.1
B.A/BSc/B.Ed.	310	54.6	80.8
NCE	97	19.3	100.0
Total	457	100.0	

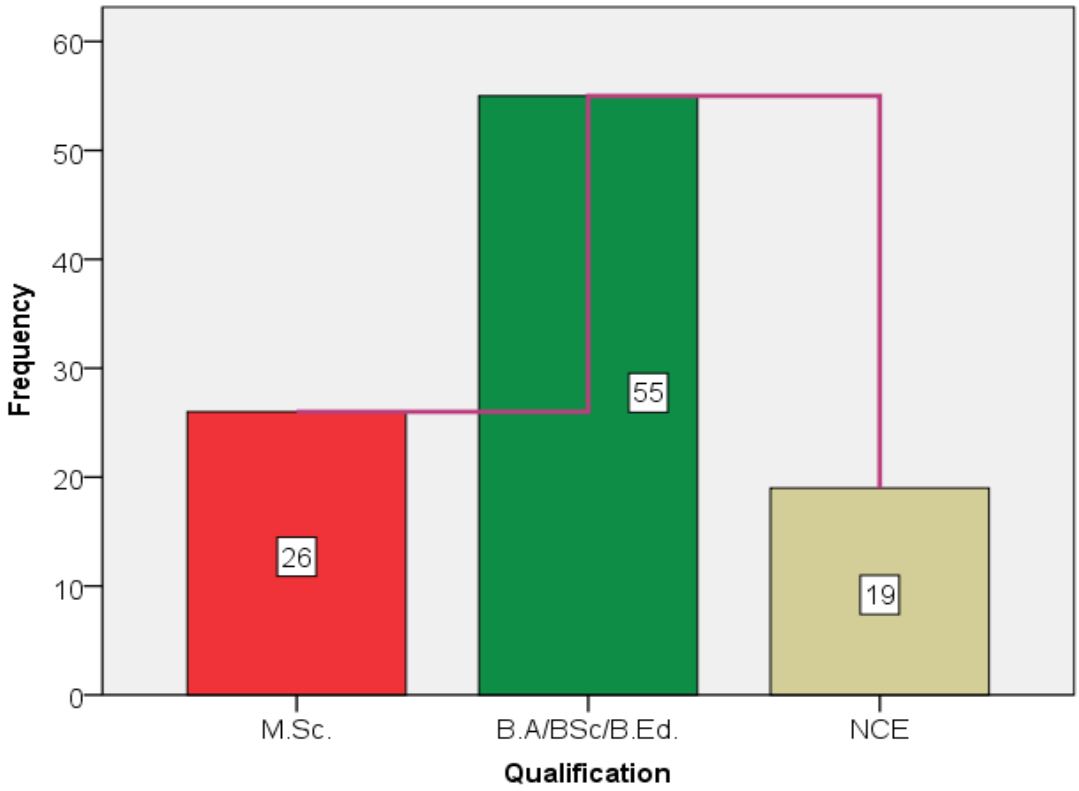

Figure 4: Chart on Respondents' Qualification

Respondents' qualification was presented in table and figure 4. It indicated that 26% of the respondents had Masters certificates, 55% of the respondents had B.A/BSc/B.Ed. certificates while 17% of the respondents had NCE certificates. This shows that most respondents had B.A/BSc/B.Ed. certificates.

RESULTS

Research Question One

How do teachers utilize mobile learning devices for instructional purposes?

Table 5: Utilization of mobile learning devices for instructional purposes

S/N	Items	Mean	Std. Dev
1.	Mobile devices utilisation in the classroom makes classroom interaction easier and interesting.	3.70	.461
2.	Mobile devices usage increases my daily productivity in teaching my students.	3.49	.502

S/N	Items	Mean	Std. Dev
3.	I find it easier to gather relevant lesson contents when I use mobile devices to surf the internet.	3.26	.441
4.	There is enough time to teach my lessons when I use mobile devices in my classroom.	3.14	.349
5.	Using Mobile devices enhances my effectiveness in the teaching job.	3.47	.502
6.	My students do not understand when I teach with Mobile devices	2.80	.402
7.	Use of Mobile devices allows students' participation in the classroom.	3.41	.494
8.	Students are eager to learn when Mobile devices tools are used in my classroom	3.25	.435
9.	My students prefer asking me questions related to the lessons compare to other teachers that do not use mobile devices in the classroom	3.21	.409
10.	Using of Mobile devices facilities helps me in retrieving notes, sharing lesson contents, and assess my students.	3.68	.530
	Utilization	3.34	.18263

How teachers utilize mobile learning devices for instructional purposes was investigated and the result presented alongside its mean score in table 5. The grand mean score was 3.34 which was greater than the bench mark of 2.50. This established that most teachers judiciously utilize the available mobile learning devices for instructional purposes.

Research Question Two

What is the influence of gender on teachers' utilization of mobile learning devices for instructional purposes?

Table 6: Difference between male and female teachers' Utilization

Gender	Frequency	Mean	Mean Gain
Male	212	3.35	
Female	245	3.33	0.02
Total	457	3.34	

The influence of gender on teachers' utilization of mobile learning devices for instructional purposes was assessed and shown in table 6. It indicated that the mean score on male teachers' utilization of mobile learning devices for instructional purposes was 3.35 while the mean score on female teachers' utilization of mobile learning devices for instructional purposes was 3.33. The mean difference of 0.02 established that male teachers utilize mobile learning devices for instructional purposes than their female counterparts.

Research Question Three

What is the difference in teachers' utilization of mobile learning devices based on age?

Table 7: Difference between Teachers' Utilization by Age

Age	Frequency	Mean	Mean Gain
25-35 Years Old	78	3.40	
36-45 Years Old	288	3.33	0.06
46 Years and Above	91	3.31	
Total	457	3.34	

The difference in teachers' utilization of mobile learning devices based on age was investigated and the result presented in table 7. It indicated that the mean score on utilization of mobile learning devices by teachers within the age of 25-35 Years was 3.40, the mean score on utilization of mobile learning devices by teachers within the age of 36-45 Years was 3.33 while the mean score on utilization of mobile learning devices by teachers within the age of more than 45 Years was 3.31. The mean difference of 0.06 established that teachers within the age of 25-35 years utilizemobile learning devices for instructional purpose the most than their counterparts with older ages.

Research Question Four

Do teachers utilization of mobile learning devices for instructional purposes differs based on qualifications?

Table 8: Difference between Teachers' Utilization based on Qualification

Gender	Frequency	Mean	Mean Gain
NCE	97	3.35	
B.A/B.Sc/B.Ed.	310	3.31	0.07
M.Sc.	50	3.41	
Total	457	3.34	

Table 8 showed the result ondifference on teachers' utilization of mobile learning devices for instructional purposes based on qualifications. It indicated that mean scores of teachers with NCE utilization of mobile learning devices for instructional purposes, mean scores of teachers with Bachelors degree' utilization of mobile learning devices for instructional purposes was 3.31 while the mean score on of teachers with masters' degree utilization of mobile learning devices for instructional purposeswas 3.41. The mean difference of 0.07 established that there is difference in teachers' utilization of mobile learning devices for instructional purposes based on qualifications in favour of the masters' degree holders.

Research Question Five

Do teachers' utilization of mobile learning devices for instructional purposes differs based on School Type?

Table 9: Difference between Teachers' Utilization by School Type

School Type	Frequency	Mean	Mean Gain
Private	183	3.43	
Public	274	3.28	0.15
Total	457	3.34	

The influence of school type on teachers' utilization of mobile learning devices for instructional purposes was assessed and shown in table 9. It revealed that the mean score on private school teachers'

utilization of mobile learning devices for instructional purposes was 3.58 while the mean score on public school teachers' utilization of mobile learning devices for instructional purposes was 3.28. The mean difference of 0.15 established that private school teachers utilize mobile learning devices for instructional purposes than their public teachers' counterparts.

Hypothesis One

There is no significant difference between male and female teachers' utilization of mobile learning devices for instructional purposes. In other to investigate whether there was significant difference between male and female teachers' utilization of mobile learning devices for instructional purposes, t-test was used to test the hypothesis at 0.05 significant level.

Table 10: t-test on Significant differences Between Male and Female Teachers' Utilization of Mobile Learning Devices for Instructional Purposes

S/N	Qualification	N	Mean	Std. Dev.	Df	T	Sig. (2tailed)	Remarks
1.	Male	212	3.35	.18				
					455	.58	0.57	Accepted
2.	Female	245	3.33	.19				
	Total	457						

Table 11 indicates that t (455) = .58, p = 0.57. This means that the stated null hypothesis was accepted. This was as a result of the t-value of 0.58 resulting in 0.57 significance value which was greater than 0.05 alpha value. It was deduced that there is no significant difference between male and female teachers' utilization of mobile learning devices for instructional purposes.

Hypothesis Two

There is no significant difference in teachers' utilization of mobile learning devices for instructional purposes based on age

Table 11: ANOVA on significant difference in teachers' utilization of mobile learning devices for instructional purposes based on age

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Decision
Corrected Model	.092[a]	2	.046	1.383	.256	
Intercept	808.685	1	808.685	24434.269	.000	
Age	.092	2	.046	1.383	.256	Accepted
Error	3.210	454	.033			
Total	1119.530	457				
Corrected Total	3.302	456				

a. R Squared = .028 (Adjusted R Squared = .008)

The table 12 present the analysis of variance showing whether there is significant difference in teachers' utilization of mobile technologies for instructional purposes based on age. The result of the ANOVA table presented that null hypothesis was accepted with F (2, 456) = 1.39; P > 0.05. This indicated that there was no significant difference in teachers' utilization of mobile learning devices for instructional purposes based on age.

Hypothesis Three

There is no significant difference in teachers' utilization of mobile learning devices for instructional purposes based on qualification.

Table 12: ANOVA on significant difference in teachers' utilization of mobile learning devices for instructional purposes based on qualification

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Decision
Corrected Model	.188[a]	2	.094	2.923	.059	
Intercept	927.202	1	927.202	28880.207	.000	
Qualification	.188	2	.094	2.923	.059	Accepted
Error	3.114	455	.032			
Total	1119.530	457				
Corrected Total	3.302	456				

a. R Squared = .057 (Adjusted R Squared = .037)

The table 13 present the analysis of variance showing whether there is significant difference in teachers' utilization of mobile technologies for instructional purposes based on qualification. The result of the ANOVA table presented that null hypothesis was accepted with F (2, 456) = 2.923; P > 0.05. This indicated that there was no significant difference in teachers' utilization of mobile learning devices for instructional purposes based on qualification.

Hypothesis Four

There is no significant difference between private and public teachers' utilization of mobile learning devices for instructional purposes. In other to investigate whether there was significant difference between private and public teachers' utilization of mobile learning devices for instructional purposes, t-test was used to test the hypothesis at 0.05 significant level.

Table 13: t-test on Significant differences Between private and publicteachers' utilization of mobile learning devices for instructional purposes.

S/N	School Type	N	Mean	Std. Dev.	Df	T	Sig. (2tailed)	Remarks
1.	Private	183	3.43	.24				
					456	4.32	0.00	Rejected
2.	Public	274	3.28	.09				
	Total	457						

Table 14 indicates that t (456) = 4.32, p = 0.00. This means that the stated null hypothesis was rejected. This was as a result of the t-value of 4.32 resulting in 0.00 significance value which was less than 0.05 alpha value. It was established that there was significant difference between private and public teachers' utilization of mobile learning devices for instructional purposes in favour of the private school teachers.

DISCUSSION OF RESEARCH FINDINGS

The study sought to find outthe assessment of secondary school teachers' utilization of mobile learning devices for instructional

purposes in Osun State.The study indicated that mobile-learning can be used to solve the traditional learning system problems. Both teachers and students need a proper and handy system to interact with each other and facilitate the teaching system. The mobile-learning systems are not to replace traditional classrooms but they can be used to complement the learning process in secondary schools which precedes the universities. The results of the findings established that most teachers judiciously utilize mobile learning devices for instructional purposes. This support the findings of Adeyemo (2018) who asserted that the interest in the study of learning environment has become more prominent since it has been evident that learning outcomes and students' attitude towards learning were closely linked to the learning environment. Also, Amoo (2019) concluded that mobile devices were used by some teachers to facilitate the teaching process.

There is no significant difference between male and female teachers' utilization of mobile learning devices for instructional purposes. The result indicates that there is no significant difference between male and female teachers' utilization of mobile learning devices for instructional purposes. Clements (2015) indicates that computers in the classroom contribute to cognitive development. This finding supports the study of Bian and Rice (2014) who opined in their study that gender does affects students attitudes toward technology, the study added that majority of females do not perceive computers as being difficult for themselves. However, several males indicated they were better at using the computer than females.

The findings established that there was no significant difference in teachers' utilization of mobile learning devices for instructional purposes based on age. The result revealed that there was no significant difference in teachers' utilization of mobile learning devices for instructional purposes based on age. There was no significant difference in teachers' utilization of mobile learning devices for instructional purposes based on qualification. Result

showed that there was no significant difference in teachers' utilization of mobile learning devices for instructional purposes based on qualification. Teachers' age and qualification are different on individual perception therefore, even if some teachers have adequate technology and support, they may not exuberant enough to implore the technological tools and gadgets for class instruction (Riaka, Hiltunen&Vesisenaho,2104). There is no significant difference between private and public teachers' utilization of mobile learning devices for instructional purposes. It was established that there was significant difference between private and public teachers' utilization of mobile learning devices for instructional purposes in favour of the private school teachers.Riaka, (2014) stated a notable determinant of teachers' utilization of mobile devices is their level of confidence in using technology.

Limitations of the Study

The following limitations could be observed regarding the study:

1. The study was basically on the assessment of secondary school teachers' availability of mobile learning devices for instructional purposes in Osun State and the findings may not be generalized to other states in Nigeria.
2. The sample comprised secondary school teachers, thus the findings may not be generalized to primary school teachers and lecturers in the Universities.

RECOMMENDATION

Based on the findings and conclusion of the study the following recommendations were hereby made;

1. The educational authorities and the school system should encourage the use of mobile learning devices by providing for them, the necessary materials and enhance students learning.
2. There is compelling need to secure a stable source of power supply in the schools to ensure sustainable use of mobile learning devices.
3. There is immediate need for ministry of education to organise seminars, conferences and workshops to engage teachers on how

to utilize mobile learning devices in the teaching and learning process.

Suggestions for Further Studies

For further researchers in this area, the following were thereby made:

1. Further studies should be carried on teachers' utilization of mobile devices and their level of confidence in using technology.
2. Further studies should evaluate teachers' level of competency or skills in the utilization of mobile learning in teaching and learning.
3. Further studies should focus on the availability and usability of mobile learning devices forin secondary schools.

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