



ICT LITERACY OF LANGUAGE TEACHERS IN SELECTED LAGOS STATE SECONDARY SCHOOLS, NIGERIA

Solomon O. Makinde
Lagos State University, Nigeria

Omawumi O. Makinde
Lagos State University, Nigeria

Oludare A. Shorunke
Ondo State University of Science and Technology, Nigeria

Abstract

This study contributes to the limited research available on Information and Communication Technology (ICT) literacy of language teachers in Nigeria. The advent of ICT brought new opportunities that require a skill set to operate better and faster, even in the education sector. The case for teachers' ICT literacy is cogent in the information age to update them on their areas of specialization. The use of ICT requires some skills to enhance the access and retrieval of the required information without undue stress. The level of ICT skills a teacher possesses may affect the extent to which the teacher puts ICT to use. This study revealed that majority of the respondents made use of ICT resources. The study revealed that aggregately a large proportion of the teachers are ICT literate. This study made recommendations to improve ICT skills training and access to ICT resources.

Keywords: ICT Literacy, Language Teachers, Secondary Schools, Teacher Training, Teacher Development, School Libraries, Nigeria ICT.

Introduction

The advent of Information and Communication Technology (ICT) has brought new opportunities. This however requires certain skill sets to explore the embedded benefits ICT has to offer the education sector, especially in teaching and learning activities. In fact, the education sector worldwide is now being opened to ICT in contrast to what used to be the case over a decade ago where there were substantial numbers of teachers who had negative or obnoxious feelings about computers in the classroom (Ahrenfelt and Watkin, 2008). ICT for example, offers a range of different tools for use in schools and can enhance both practical and theoretical aspects of language teaching and learning. It has therefore become an

necessary component that is infused into teaching and learning in secondary schools (Aiyebilehin, 2012).

ICT brings about innovation in the teaching and learning processes as it improves lifelong learning habits in students. Moreover, Amri (2001) identified certain areas of ICT as important for language teachers, for example, the use of a word processor, e-mail, and multimedia. Some of the available ICT applications and facilities that can be used to enhance learning, make lessons interesting and enliven the classroom in a language class include, but are not limited to, interactive boards and presentation applications, such as Microsoft PowerPoint, Adobe Photoshop, Corel Draw, and Picasa. These and many more may be adopted by language teachers to enhance their effectiveness and relevance in the knowledge society where emphasis is placed on intellectual capabilities (to use ICT effectively) and not on physical input of available (ICT) resources. The use of such resources is however dependent on availability, accessibility, skills, and ease of use (Adetimirin, 2011). Research conducted on young people showed a remarkable trend, it revealed that children retain 20% of what they hear, 40% of what they see and hear, and 75% of what they see and do. ICT use in the classroom in developing countries is still in its infancy. Its overall effectiveness needs to be enhanced by better software and hardware as well as greatly increased availability. (Aktaruzzaman, Shamim, & Clement, 2011).

When used appropriately, different ICT facilities help expand access to education, strengthen the relevance of education to the increasingly digital workplace, and raise educational quality by helping to make teaching and learning an engaging and active process connected to real life. The use of ICT will prove beneficial in improving Nigeria's educational system and giving students memorable lessons if applied properly. A technologically advanced workforce will lead to ICT growth in Nigeria, with the potential to improve military technology and telecommunications, media communications, and skilled ICT professionals who will be well equipped to solve IT problems in Nigeria and other parts of the world (Goshit, 2006; Adomi and Kpangban, 2010). Aiyebilehin (2012) studied the influence of teachers' information needs on ICT use in schools in Oyo state and found that, computer, multimedia boards, projectors, telephones, internet, scanners, and photocopiers were used by teachers. Further from his findings the largest percentage of computer users (57.26%) reported to be monthly users, the largest percentage of multimedia users (52.56%) reported to be occasional users, and the largest percentage of projector users 125 (53.42%) reported to be occasional users.

Adetimirin (2011 citing Mlitwa, 2004) agreed that ICT has the capability to enhance teaching and learning through improved interaction across cultures, among students, among academics, and between these groups. ICT brought about the era of the "boundary-less" classroom, thereby extending the frontiers of knowledge dissemination beyond the four walls of the traditional classroom and as such, a need to spearhead this new era by ICT literate "teachers without borders". Any educational system in the world with teachers, who are masters of their subject matter and ICT literate, has the capability to revamp and revitalize the educational system by infusing novelty into the dissemination of instructional content. Integrating ICT into teaching methodology in the curriculum modules may further enhance the competencies and skills of teachers for greater performance. Garnishing the language curriculum with applicable ICT in our environment is a starting point. This may call for a departure from the meagre 8% of the annual budget apportioned to the educational sector in Nigeria, while comparatively other countries like Ghana allocate 31% of their annual budget to education. Going by UNESCO standard, developing countries like Nigeria should allocate at least 26% of its annual budget to education.

Teachers have great influence on students through the learning process and can enhance pupils' cognitive growth (Ogunsaju, 2009). As learning in the ICT age no longer restricted to the four walls of the classroom, students with internet enabled mobile phones can do basic searches online and obtain information that may not be within the teacher's reach at the point of disseminating the instructional content. Teachers must as a result exploit ICT with comparable or better technology to enliven their lessons; thereby facilitating better assimilation of the instructional content and keeping teachers abreast of current updates in their subject of specialization.

Language teachers are responsible for developing students' abilities in reading, writing, listening, and speaking of the language being taught and as such should be in the forefront of leveraging technology in the classroom. Moreover, Amiri (2000) opined that there is general agreement among teachers and teacher educators that information technology (IT) has become so important, both in our everyday lives and in education, that it is necessary for teachers to know how to use IT effectively in their teaching.

Therefore, the purpose of language teaching goes beyond memorizing grammar rules and vocabulary, or even the development of individual communication skills. Rather, the purpose of language teaching, and indeed of any educational process, is to enhance the human and social development of students and their broader community (Warschauer, 2004). This broader function of language education is one of the reasons why the use of technology in instruction can be so important. Through the introduction of technology, language students can master the kinds of information and communication media that will allow them to use the language being taught in potentially powerful ways, such as for national and international communication, investigation and research knowledge production and dissemination, and publication of texts and multimedia documents (Shetzer & Warschauer, 2000; Warschauer, 2004). Knowing that language teachers need to be ICT literate is one thing, another salient need is the maintaining of updated ICT knowledge because ICT is continually evolving.

In an International ICT Literacy Panel report (2002), they defined ICT literacy as "using digital technology, communication tools, and/or networks to access, manage, integrate, evaluate, and create information in order to function in a knowledge society." The report expanded further on the five critical components embedded in the definition of ICT literacy, for instance, access is knowing about and how to collect and/or retrieve information; to manage involves the application of an existing organizational or classification scheme; to integrate connotes interpreting and representing information and it involves summarizing, comparing and contrasting; to evaluate is the ability to make judgments about the quality, relevance, usefulness or efficiency of information; and creation is the generation of information by adapting, applying, designing, inventing or authoring information. However, ICT literacy for the purpose of this study is the ability to choose, evaluate, and use the existing computer based materials, both those developed specifically for language learning and otherwise.

In fact, the demand for computer and ICT literacy is increasing in Nigeria because employers realize that computers and other ICT facilities can enhance efficiency. On the other side, employees have realized that lack of computer knowledge can be a threat to their jobs, and the only way to enhance job security is to become computer literate. With the high demand for computer literacy, teaching and learning these skills are concerns among professionals (Adomi and Kpangban, 2010). Teachers' ICT literacy is a foundational skill in the information age in order for them to stay current in their areas of specialization. They can exploit ICT to complement print resources available in their various school libraries and to retrieve information relevant to the achievement of academic goals. The Global Information Technology Report 2013 and the National Information Technology Development Agency website revealed that Nigeria does not have an ICT policy. However, Nigeria's National

Information Communication Technology (ICT) Policy DRAFT (2012) is available in the public domain. This document places emphasis on the introduction of ICT training at all school levels through the development of specialized training institutes. It also provides for computer and Internet access in public facilities, such as post offices, schools, and libraries.

Ahrenfelt and Watkin (2008) averred that a major impediment to ICT use by teachers is lack of time to experiment with technology. Invariably, good progress in the utilization of ICT requires an investment of time. They further noted that many schools have computers, but the problem is access to them. Computer rooms are often booked for ICT lessons only, but some other subjects also need them. The implication of this situation is limited access for classes offered by teachers of other subjects. Similarly, Aiyebilehin (2012) reported on some of the challenges teachers face in the use of ICT and found that lack of time (80%), inefficiency of teachers' technical knowledge (77%), deficiency in professional development opportunity for gaining knowledge and skills (54%), and traditional teaching beliefs (54%) were reported to be the major constraints to the teachers' use of ICT.

We believe that ICT has the potential to enhance learning, teaching, information distribution, and educational services. In this regard, educational institutions should significantly revise present teaching practices and resources to create a more effective learning environment, and improve the lifelong learning skills and habits in their students. It is quite disheartening to note that the computer is not part of the classroom in more than 90% of Nigerian public schools (Okebukola, 1997 cited in Adomi & Kpangban, 2010). This appears to remain the case in Lagos State public schools, which observations revealed the presence of computer rooms' locked up and opened for inspection purposes only. This study therefore seeks to assess the extent of ICT literacy of language teachers in selected Lagos State secondary schools within the Lagos metropolis.

Research Objectives and Questions

The objectives of the study were:

- 1) To assess the available ICT facilities in the schools;
- 2) To assess the level of accessibility to ICT in the schools;
- 3) To identify the academic purposes for which the respondents use ICT;
- 4) To assess the ICT literacy level of the teachers; and
- 5) To identify constraints to ICT literacy.

The following research questions were addressed in this study:

- 1) What are the available ICT facilities in the schools?
- 2) What is the level of accessibility to ICT in the schools?
- 3) What are the academic purposes for which the respondents use ICT?
- 4) What is the ICT literacy level of the teachers?
- 5) What are the constraints to ICT literacy of respondent?

Research Methodology

Pellegrino, Chudowsky, and Glaser (2001) proposed that effective assessment has, as its core, three features: a detailed description of the thing (construct) being assessed; a set of assessment materials that are developed in relation to the description; and the process of generating suitable inferences from the information that the assessment yields. In the case of our study, our instrument (a closed ended questionnaire) covered sections on respondents' demography, available ICT facilities in the schools, accessibility to ICT in the schools, academic purposes for which the respondents use ICT, ICT literacy of the teachers, source of ICT literacy and the constraints to ICT literacy. The study adopted the descriptive survey design. Eighteen (18) secondary schools in Ojo local government of Lagos State were

purposely selected and a sample size of 200 was selected based availability at the time the instrument was administered. Data collected were analyzed using the Statistical Package for Social Science (SPSS) for the analysis to get frequency and percentages.

Results

Questionnaires were distributed to 200 respondents but 175 were returned giving a response rate of 87.5%. Information on gender distribution of the respondents revealed that 79 (45.1%) of the respondents were male, 92 (52.6%) were female, while 4 (2.3%) did not indicate their gender (Table 1).

Table 1: Gender Distribution of Respondents

Gender ID	Frequency	Percent
0 (unreported)	4	2.3
1 (male)	79	45.1
2 (female)	92	52.6
Total	175	100.0

Table 2 revealed the qualification of respondents with majority being holders of Bachelor's degree 93(53.1%), NCE 43(24.6%), Master 36(20.6%) and Ph.D. 2(1.1%)

Table 2: Qualifications of Respondents

Academic Qualification	Frequency	Percent
NCE	43	24.6
Bachelor's degree	93	53.1
Master	36	20.6
Ph.D.	2	1.1
Others	1	0.6
Total	175	100.0

Table 3 showed the earnings of the respondent in naira. It revealed that a large proportion of the teachers earn between 18,000 - 30,000 (24.6%), 31,000 – 40,000 (24.0%), and 41,000 – 50,000 (22.3%) per month and slightly more than a quarter (29.2%) earning 51,000 or more.

Table 3: Salary Information of Respondents

Earnings in Naira Per Month	Frequency	Percent
18,000 – 30,000	43	24.6
31,000 – 40,000	42	24.0
41, 000 – 50,000	39	22.3
51,000 – 60,000	19	10.9
61,000 – 70,000	2	1.1
71,000 – 80,000	4	2.3
91,000 – 100,000	7	4.0
101, 000 and above	19	10.9
Total	175	100.0

Table 4 revealed that a large percentage of the respondents indicated the availability of computer systems 170 (97.1%), followed by printers 127 (72.6%), telephone 120 (68.6%),

photocopiers 104 (59.4%), scanners 97 (55.5%), and the internet 81(46.3%). A smaller proportion of the respondent indicated the availability of multimedia projectors 59 (33.7%) and interactive boards 44 (25.1%).

Table 4: Available ICT Facilities in Schools

ICT Facilities	Available	%	Not Available	%
Computer System	170	97.1	5	2.9
Internet	81	46.3	94	53.7
Multimedia projector	59	33.7	116	66.3
Telephone	120	68.6	55	31.4
Interactive board	44	25.1	131	74.9
Photocopier	104	59.4	71	40.6
Printer	127	72.6	48	27.4
Scanner	97	55.5	78	44.5

Regarding the teachers' source of access to ICT, the majority of respondents (72%) made use of a computer laboratory, while smaller percentages of respondents accessed ICT through cybercafés (16%), business centers (14.3%), and from home (12.6%).

Table 5 showed a varied response pattern to the frequency of ICT use by the teachers. However most users of computer systems 103(58.9%), telephones 82(46.8%), internet 55(32.1%), multimedia projectors 59(34.5), interactive boards 58(30.3%) and printer 47(28.1%) reported to be daily users. The largest percentage of users of photocopiers 52 (29.7%) and scanners 51 (31.8%) reported to be weekly users.

Table 5: Frequency of ICT Use by Teachers

ICT	Daily	%	Weekly	%	Every 2 Wks	%	Occasionally	%	Never	%
Computer	103	58.9	21	12.0	6	3.4	31	17.7	14	8.0
Internet	55	32.1	36	21.6	6	3.5	43	25.1	35	20.5
Multimedia Projector	59	34.5	37	21.6	10	5.8	30	17.5	39	22.8
Telephone	82	46.8	33	18.9	9	5.1	19	10.9	32	18.5
Interactive Board	58	30.3	25	14.3	12	6.9	36	20.6	49	28.0
Photocopier	41	23.4	52	29.7	13	7.4	44	25.1	25	14.3
Printer	47	28.1	38	22.8	6	3.6	53	31.7	23	13.8
Scanner	39	24.0	51	31.8	8	3.2	43	26.6	34	10.5

The academic purposes for which the respondents use ICT, Table 6 showed that a majority 115(65.7%) reported they used ICT to get feedback on lessons taught from students, 113 (64.6%) made use of ICT to disseminate assignments to students, 112(64%) made use of ICT to deliver the instructional content to students, 106(60.6%) to chat with students through social media, and 84(48%) to send emails to students. However, a very small proportion of the teachers 65(37.1%) made use of ICT to send text messages to students, and 47(27%) reported the use of ICT to make calls to students.

Table 6: Academic Purpose for which Respondent used ICT?

Academic purpose of using ICT	True	%	Not True	%
To make calls to my students	47	27.0	127	73.0
To send text message to my students	65	37.1	110	62.9
To send emails to my students	84	48.0	91	52.0
To chat with my students through social media (Facebook, 2go, twitter, WhatsApp, pinging)	106	60.6	69	39.4
To pass the instructional content to my student	112	64.0	63	36.0
To disseminate assignment to my students	113	64.6	62	35.4
To get feedback on lesson taught from my students	115	65.7	60	34.2

On the duration of use of ICT, majority of the respondents used ICT between 1 to 2 years 62(35.4%), 36(20.6%) used ICT for less than 6months while 26(14.9%) indicated the duration of use to be between 2 to 5years, the same proportion of respondents 26(14.9) indicated that they had been using ICT for over five years and 25(14.3%) had been using ICT for 6 to 12months.

On accessibility of ICT in the schools, the response pattern is varied as revealed in Table 7. A majority of the respondents indicated that computer systems 102(58.3%), telephones 57 (32.3), multimedia projectors 50(28.6%), the internet 47 (26.7%) and scanner 42(28.4) are very highly accessible. This was followed by 60(45.8%) and 54(30.9) of teachers who mentioned that printers and photocopies were highly accessible. However a large proportion of the respondents 50(28.6) reported that Interactive board had no accessibility.

Table 7: Level of ICT Facilities Accessibility in the Schools

Access to ICT	VHA*	%	HA*	%	MA*	%	LA*	%	NA	%
Computer system	102	58.3	26	14.9	23	13.1	12	6.9	12	6.9
Internet	47	26.9	44	25.1	20	11.4	33	18.9	31	17.7
Multimedia projector	50	28.6	38	21.7	30	17.1	18	10.3	39	22.3
Telephone	57	32.6	47	26.9	13	7.4	19	10.9	39	22.3
Interactive board	40	22.9	45	25.7	28	16.0	12	6.9	50	28.6
Photocopier	43	24.6	54	30.9	25	14.3	23	13.1	30	17.1
Printer	39	23.2	60	45.8	29	17.3	23	13.7	24	14.3
Scanner	42	28.4	33	22.3	21	14.2	19	12.8	33	22.3

*VHA = Very Highly Accessible; HA = Highly Accessible; MA = Moderately Accessible; LA = Low Accessibility; NA = No Accessibility.

Majority of the language teachers used Microsoft Power Point at 115(65.7%) in preparing lessons and to enhance learning, followed by Corel draw used by 90(51.45%), Adobe Photoshop used by 78(44.6%), and Picasa used by 70(40.0%) teachers (Table 8).

Table 8: The ICT Packages to Prepare Lessons and Enhance Learning

ICT Packages Used In Teaching	Use It	%	Do Not Use It	%
Microsoft PowerPoint	115	65.7	60	34.3
Adobe Photoshop	78	44.6	97	55.4
Core draw	90	51.5	85	48.6
Picasa	70	40.0	105	60.0
Interactive board	65	37.1	110	62.9

Table 9 showed the respondents' level of literacy in using ICT. A vast majority of respondents reported that they were literate in using Microsoft Power Point at 95.4%, Microsoft Word 91.4%, Adobe Photoshop 82.3%, E-mail 71.5%, interactive board 70.2%, Corel Draw 66.3%, multimedia projector 63.4%, and social media 60.6%.

Table 9: ICT Literacy Skills of Language Teachers

Literacy Level	Expert	%	Intermediate	%	Beginner	%	No Literacy	%
Microsoft PowerPoint	85	48.6	51	29.1	31	17.7	8	4.6
Microsoft Word	69	39.4	67	38.3	24	13.7	15	8.6
Adobe Photoshop	66	37.7	52	29.7	26	14.9	31	17.8
Corel draw	47	26.9	46	26.3	23	13.1	59	33.7
Multimedia projector	38	21.7	38	21.7	35	20.0	64	36.6
Interactive board	48	27.4	44	25.1	31	17.7	52	29.7
E-mail	54	30.9	40	22.9	31	17.7	50	28.5
Social media (Facebook, twitter, etc.)	45	25.7	36	20.6	25	14.3	69	39.4

In identifying teachers' sources of ICT literacy, Table 10 revealed that a large proportion (66.3%) indicated that they attended a computer literacy program organized by the state. This was followed by those that paid for a computer literacy program 63.4%; interestingly the same proportion 63.4% also acquired ICT literacy through personal development. However 58.4% acquired ICT literacy through friends and 57.7% acquired ICT literacy as a result of an ICT program organized by the school.

Table 10: Teachers' Sources of ICT Literacy

ICT Training Source	True	%	False	%
Paid for computer literacy program	111	63.4	64	36.6
ICT Literacy program by the state government	116	66.3	59	33.7
ICT Literacy program by the school	101	57.7	74	42.3
Through Friends	103	58.8	72	41.1
Personal Development	111	63.4	64	36.6
I do not use ICT	57	32.6	118	67.4

Major constraints identified by respondents included: erratic power supply, frequent computer breakdown, and lack of technical know-how. The proportion of the total number of respondents by percentages were: erratic power supply 62.3%, followed by frequent computer breakdown 52.6%, low computer confidence 52.5%, computer phobia 49.2%, inaccessibility to ICT 49.7%, and lack of technical know-how 49.1%. This is delineated in Table 11.

Table 11: Teachers' Constraint to ICT Literacy

Constraints to ICT Literacy	Very True	%	True	%	Not Very True	%	Not True	%
Computer phobia	64	36.6	22	12.6	47	26.9	42	24.0
Erratic power supply	61	34.9	48	27.4	46	26.3	20	11.4
Frequent computer breakdown	45	25.7	47	26.9	48	27.4	35	20.0
Inaccessibility to ICT	41	23.4	46	26.3	61	34.9	27	15.4
Lack of technical know-how	34	19.4	52	29.7	66	37.7	23	13.2
Low computer confidence	44	25.1	48	27.4	49	28.0	33	19.4

It is interesting to note that Table 10 revealed that female teachers use ICT facilities more frequently ($\bar{X} = 25.48$; $SD = 11.14$) than the male teachers ($\bar{X} = 21.04$; $SD = 9.01$).

Table 10: Summary of Means [\bar{X}] and Standard Deviation (SD) of Teachers' Scores: Frequency of ICT Use Based on Gender.

Gender	N	Mean (Frequency of ICT Use)	Std. Deviation (Frequency of ICT Use)	Std. Error Mean
Male	79	21.04	9.005	1.013
Female	92	25.48	11.143	1.162

Discussion of Findings

Regarding the demographic information of respondents, the vast majority of the teachers were females 52.6%, while the male teachers accounted for 45.1% of the population. This may explain the high interest of females in language education. Similarly, the high interest of females in language education came up in the findings of Fakeye (2010) "English Language Teachers' Knowledge and Use of ICT in Ibadan Southwest Local Government of Oyo" that revealed there were more female English language teachers than male teachers in Oyo state.

Findings on the qualifications of respondents revealed that majority of the language teachers are holders of a Bachelor degree 53.1%. This cannot be far from the requirement of the state ministry of education on staffing, which further suggests that schools employ teachers with requisite qualifications to teach language related subjects. The finding on qualifications of respondents is not at variance with the report of Fakeye and Ashaolu (2013) in their study on assessment of English language teachers' knowledge and use of information and communication technology (ICT) in Ibadan. The study further revealed that the majority of the respondents were first-degree holders. Furthermore, analysis on earnings (in naira) revealed that a large proportion of the teachers earn monthly between 18,000 - 30,000

(24.6%), which was followed closely by 31,000 – 40,000 (24.0%), 41,000 – 50,000 (22.3%), 51-60, 000 (10.9%), and 101,000 and above (10.9%). This finding implies that the take home pay of about 49% of the respondents is below 51,000 per month (about \$322). This is meagre income and may not encourage individual language teachers' ICT literacy development when taking into consideration the high cost of living in Lagos metropolis. The results of this study on sources of ICT literacy revealed that a large proportion of the respondents were sponsored for ICT literacy training.

In assessing the available ICT facilities in the schools, almost all the teachers reported the availability of computer systems 97.1%, followed by printers 72.6%, telephones 68.6%, photocopiers 59.4%, scanners 55.5%, and Internet 46.3%, while a small proportion of the respondents indicated the availability of multimedia projectors 33.7% and interactive boards 25.1%. The available ICT facilities looks encouraging, but looking at the suitability in teaching in a language classroom, the available ICT facilities may not prove efficacious in teaching a language class. The multimedia projector and interactive board are suitable technologies considering the large number of students in the language class, and considering the compulsory status that language instruction holds in the school curriculum. Other ICT facilities like computer systems and Internet connectivity might not be accessible to all students when teaching which may impede the effectiveness and efficiency of instructional content dissemination. This finding corroborates the findings of Ezeoba (2007) and Fakeye (2010) that ICT facilities are not fully available in primary and secondary schools. Furthermore, the results showed that the teachers' main source of access to ICT is the computer laboratory, while a small percentage of the respondents access ICT through cybercafés, business centers, and at home.

The findings on the accessibility to ICT in the schools showed a varied response pattern as a majority of the respondents indicated that computer systems 58.3%, telephones 32.3%, multimedia projectors 28.6%, the internet 26.7% and scanners 28.4% are very highly accessible, followed by printers 45.8% and photocopiers 30.9% which are highly accessible. However, a large proportion of the respondents (28.6%) reported that interactive boards were not accessible. As noted earlier, the importance of interactive boards in a language classroom cannot be overemphasized, as it enlivens the classroom and makes language students master the contents. Interactive boards could even engender innovation that will allow students to use the language learnt in potentially powerful ways, such as for national and international communication, investigation and research knowledge production and dissemination, and publication of texts and multimedia documents.

The research findings on the academic purpose for which respondents use ICT showed a varied response pattern to the frequency of ICT use by the teachers. It is interesting to note that most users of computer systems, telephones, internet, multimedia projectors, interactive boards, and printers reported that they were daily users, while the largest percentage of users of photocopiers and scanners reported to be weekly users. On the academic purposes for which the respondents use ICT, the result of the statistics showed that the majority of the language teachers reported the use of ICT to get feedback on lessons taught from students, to disseminate assignments to students, made use of ICT to pass the instructional content to student, to chat with students through social media, and to send e-mails to students. This is rather interesting as it suggests that language teachers in Lagos metropolis are exploring the potentials of a "boundary-less" classroom offered in the information age. However, only a small proportion of the teachers made use of ICT facilities to send text messages to students and to make calls to students. Our findings agree with Adeyemo (2010) that Physics teachers in Lagos secondary schools tend to use ICT more than Language teachers in teaching. In connection with ICT use, Lin, Lee, & Chen (2004) reported that "Chinese language arts instructors would like to encourage their students to

send emails...or participate in a pre-arranged web discussion forum to ask questions and get direct responses from the teachers.” However, in the Nigerian context language teachers in Lagos State used ICT in getting feedback from students. It may apparently offer great learning reinforcement after studying during vacations as students are able to post questions and get feedback directly from their teachers through online platforms.

The result of statistics taken on the duration of use of ICT revealed that majority of the respondents either used ICT for between 1 to 2 years (35.4%) or had used it for less than 6 months (20.6%). Of the remaining respondents 14.3% had used ICT for 6 to 12 months with an equal respondent percentages at 14.9% each, who used ICT from between 2 to 5 years or for more than five years.

Findings on ICT teacher literacy revealed the proportion of the total number of respondents that are literate in using Microsoft Power-point 95.4%, Microsoft Word 91.4%, Adobe Photoshop 82.3%, e-mail 71.5%, interactive boards 70.2%, Corel draw 66.3%, multimedia projectors 63.4%, and social media 60.6%. Furthermore, the research results revealed that majority of the language teachers were found to use Microsoft Power-point in preparing lessons and to enhance learning, followed by Corel draw, Adobe Photoshop, Picasa and the least, interactive boards. It is explicit from the findings that aggregately a large proportion of the language teachers are ICT literate. However, it should be noted that frequent use of ICT would improve ICT skills and the longer the duration of use, the better the skills possessed (Adetimirin, 2012).

On teachers source of ICT literacy, findings revealed that a large proportion indicated that they attended a computer literacy programme organised by the state, this was followed by those that paid for a computer literacy programme, interestingly the same proportion (that paid for a computer literacy programme) also acquired ICT literacy through personal development, however 58.4% acquired ICT literacy through friends, 57.7% acquired ICT literacy as a result of an ICT programme organised by the school. However, it is worrisome that 32.7% of the respondents do not use ICT. This discovery agrees with the report of Lin, Lee, & Chen (2004) in their research on exploring potential uses of ICT in Chinese language arts instruction found that the school trained teachers on the use of ICT. This result implies that a large proportion of the language teachers are ICT literate. School administrators can explore this if the necessary ICT facilities and qualified IT personnel are available. It may also serve as a means of bridging the (digital) divide, which according to Warschauer (2003) was caused by (ICT) literacy between graduates of the schools and their counterparts in educationally advanced part of the world.

From the results taken from statistics, major constraints to ICT literacy identified by respondents include erratic power supply, frequent computer breakdown and lack of technical know-how which is the least. However, the proportion of the total number of respondents by percentages are - erratic power supply 62.3%, followed by frequent computer breakdown 52.6%, low computer confidence 52.5%, computer phobia 49.2%, inaccessibility to ICT 49.7%, lack of technical know-how 49.1%. The results of this finding corroborate the findings of Aiyebilehin (2012) and Fakeye (2010) that teachers cannot use ICT constructively due to lack of their technical knowledge.

It is apparent in the findings and interesting to note that female teachers use ICT facilities more frequently ($\bar{X} = 25.48$; $SD = 11.14$) than the male teachers ($\bar{X} = 21.04$; $SD = 9.01$). This finding validates the findings of Adeyemi (2005) that female teachers use ICT facilities more than their male counterparts do. This however contradicts the findings of Fakeye (2010) that male teachers have higher knowledge of ICT more than female teachers do.

Conclusion and Recommendations

The educational effectiveness of ICTs depends on how they are used and for what purpose; as ICT has lot to offer to the teaching profession. This study established that aggregately a large proportion of the teachers' are ICT literate and revealed the extent of availability and accessibility of ICT facilities that are hitherto inadequate. It further established that frequency of ICT use would improve ICT skills. However, it should be noted that ICT is a supplement to educational tools in developing world, and like any other educational tool or mode of educational delivery, ICTs do not work for everyone, everywhere in the same way. The results revealed opportunities to enhance the use of ICT in teaching and learning, in particular, those activities in which the respondents used ICTs frequently, in order to expand its roles and potential impact. On the overall, Nigeria can address the problem of "global learning deficit" by investing in quality teacher development and scaling up teachers' ICT literacy in both the formal and informal contexts using appropriate technologies.

Recommendations based on this study's findings, include the following areas and strategies for improvement. First, state level ministries of education can collaborate with the National Information Technology Development Agency to develop an ICT based Curriculum that is relevant for keeping in pace with technological development and the changing competencies required of the 21st century teacher. Second, school administrations should endeavour to sponsor teachers for regular seminars, symposia and workshops on ICT (that focuses on classroom application) hosted by renowned organizations, that are teacher-learner oriented, and may also establish an ICT department in the schools for training and retraining the teachers as ICT is constantly evolving and this may improve the ICT literacy of teachers.

In addition to state and school administrator roles, schools can source funds through public/private partnership and through donor agencies to fund school ICT projects as these are project is a capital-intensive projects in order to augment the inadequate ICT facilities for language teaching noted in the schools. Also, though there is no one formula for determining the optimal level of ICT integration in the educational system, creative teachers at all levels of education have always found ways to incorporate innovative teaching aids and strategies in their classes. However, we suggest that using ICTs in conjunction with well-planned classroom teaching should have a positive impact on the learner.

Schools should deploy ICT in language classrooms and teachers should be encouraged to use presentation software like Microsoft PowerPoint to teach at least once a month. This will also involve the need to recruit technical staff (system analysts) who will attend to the problems that may crop up with the systems; and to provide a stable electricity system is an indispensable infrastructure in the proper functioning of computer systems and other ICT facilities and good effort towards acquiring such should be made. Finally, the school library should include relevant books on ICT literacy in its collection development on a quarterly or yearly basis and the timetable should be flexible for teachers to utilize such.

REFERENCES

- Adetimirin, A.E. (2012). ICT literacy among undergraduates in Nigerian universities. *Education Information Technology*, 17, 381–397.
- Adeyemi, M.O. (2005). Gender differences in of the use and application of ICT tools. Cited in Fakeye D. O. (2010). Assessment of English language teachers' knowledge and use of information and communication technology (ICT) in Ibadan Southwest Local Government of Oyo State. *American-Eurasian Journal of Scientific Research*, 5(4), 270-276.

- Adomi, E.E., & Kpangban, E. (2010). Application of ICTs in Nigerian secondary schools. *Library Philosophy and Practice*, 345.
- Ahrenfelt, J. and Watkin, N. (2008). *Innovate with ICT: Enhancing learning across the curriculum*. New York: Continuum International Publishing Group.
- Aiyebilehin, J.A. (2012). The influence of teacher's information needs and seeking behaviour on ICT use in secondary schools. (Unpublished MLIS Thesis). University of Ibadan, Ibadan, Nigeria.
- Ajayi, S.A., Shorunke, O.A., & Akinola, A.O. (2013). Factors influencing the use of information communication technologies (ICT) by library personnel in college libraries in Osun and Oyo States, Nigeria. *The Information Technologist*, 10(1), 143-156.
- Aktaruzzaman, M., Shamim, M.R., & Clement, C.K. (2011). Trends and issues to integrate ICT in teaching and learning for the future world of education. *International Journal of Engineering & Technology*, 11(3), 114-119.
- Alvine, L. (2000). A 20th century English teacher educator enters the 21st century: A response to Pope and Golub. *Contemporary issues in technology and teacher education*, 1(1), 102-106.
- Amiri, F. (2000). IT-literacy for language teachers: Should it include computer programming?. *System*, 28(1), 77-84.
- Bayir, S., Keser, H., & Numanoglu, G. (2010). General review on computer literacy of visually handicapped individuals in Turkey. *Procedia Social and Behavioral Sciences*, 9, 1475–1480.
- Bilbao-Osorio, B., Dutta, S., & Lanvin, B. (2013). *The global information technology report: Growth and jobs in a hyperconnected world*. Geneva: World Economic Forum.
- Ezeoba, K. O. (2007). Instructional media: An assessment of the availability, utilization and production by nursery school teachers. *Journal of Applied Literacy and Reading*, 3 (Special Edition), 33-38.
- Fakeye D. O. (2010). Assessment of English language teachers' knowledge and use of information and communication technology (ICT) in Ibadan Southwest Local Government of Oyo State. *American-Eurasian Journal of Scientific Research*, 5(4), 270-276.
- Fakeye, D.O. and Ashaolu, E. (2013). Teachers' perception of factors influencing internet use in English language classroom in Nigeria. *AFRREV LALIGENS: An International Journal of Language, Literature and Gender Studies*, 2(2), 118-136.
- Galanouli, D., Murphy, C., & Gardner, J. (2004). Teachers' perceptions of the effectiveness of ICT-competence training. *Computers and Education*, 43, 63–79.

- Goshit, T. (2006). Nigeria's need for ICT: SP. 259 technology and policy in Africa. (MIT Opencourseware). Retrieved from <http://ocw.mit.edu/NR/rdonlyres/Special-Programs/SP-259Spring-2006/891209EE-E63B-4617-BA9D-7635A63C754B/0/goshit.pdf>.
- Hinostroza, J.E., Labbé, C., Brun, M., & Matamala, C. (2011). Teaching and learning activities in Chilean classrooms: Is ICT making a difference? *Computers & Education*, 57, 1358–1367.
- Hooker, M., Mwiyeri, E., & Verma, A. (2011). Teacher development for the 21st century (TDev21) Pilot: ICT competency framework for teachers in Nigeria. National Commission for Colleges of Education Nigeria, World Bank and GESCI Initiative. Retrieved from http://www.gesci.org/assets/files/Nigeria_Needs_Assessment_Report_Draft_Final_191011.pdf.
- International ICT Literacy Panel. (2002). *Digital transformation: A framework for ICT literacy*. Princeton, New Jersey: Educational Testing Service. Retrieved from <http://www.ets.org/Media/Research/pdf/ICTREPORT.pdf>.
- Kim, J.H., Jung, S.Y., & Lee, W.G. (2008). Design of contents for ICT literacy in-service training of teachers in Korea. *Computers & Education*, 51, 1683–1706.
- Lee, C.C. (2002). Interactivity tools in online learning. *The Internet TESL Journal*, 8(7).
- Lee, K.W. (2000). English teachers' barriers to the use of computer-assisted language learning. *The Internet TESL Journal*. 6(12).
- Lin, J.M., Lee, G.C., & Chen, H. (2004). Exploring potential uses of ICT in Chinese language arts instruction: Eight teachers' perspectives. *Computers & Education*, 42 (2004) 133–148.
- Medicus, D. & Wood, S. N. (2000). The power of technology to inspire students and teachers in English arts classrooms. *Contemporary Issues in Technology and Teacher*, 1(2).
- Ministry of Communications Technology (2012). *National information communication technology (ICT) policy draft*. Retrieved from http://techloy.com/wp-content/uploads/2012/01/National ICT Policy DRAFT_090112.pdf.
- Mlitwa, N. (2004). Global perspectives on higher education and the role of ICT. Cape Higher Education Consortium Conference, University of the Western Cape (UWC), Bellville, South Africa. Retrieved from <http://www.hicte.uwc.ac>.
- Ogunsaju, Anthony A. (2009). Quality control for school effectiveness. In Oyesiku, K. Ogunsaju, S. & Oni, J. (Eds) *Contemporary school administration in Nigeria*. Ogun: Tai Solarin University of Education.
- Okebukola, P. (1997). Old, new, and current technology in education. *UNESCO Africa*, 14 (15): 7-18.

-
- Pandey V.C. (2001). *Digital technologies and teaching strategies*. Delhi, India: Isha Books Publisher.
- Pellegrino, J., Chudowsky, N., & Glaser, R. (2001). *Knowing what students know: The science and design of educational assessment*. Washington, D.C.: National Academy Press.
- Safdar, A., Yousuf, M.I., Parveen, Q., & Behlol, M.G. (2011). Effectiveness of information and communication technology (ICT) in teaching mathematics at secondary level. *International Journal of Academic Research*,3(5).
- Warschauer, M. (2000). The changing global economy and the future of English teaching. *TESOL Quarterly*,34, 511–535.
- (2002). A developmental perspective on technology in language education. *TESOL Quarterly*, 36, 453–475.
- (2003) *Technology and social inclusion: Rethinking the digital divide*. Cambridge, MA: MIT Press.
- (2004). Of digital divides and social multipliers: Combining language and technology for human development. *Analytical Survey*, 46.