Teachers' Perception on Utilization of Information and Communication Technology in Secondary Schools in Lagelu Local Government Area, Ibadan, Oyo State

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Abstract.
The study assessed teachers' perception on utilization of information and communication technology in secondary schools in Lagelu local government area, Ibadan, Oyo State. The study was a descriptive research of the survey type. The target population for this study was made up of public and private secondary schools in Lagelu local government area of Ibadan, Oyo state. The sample size was 140 secondary school teachers. A modified instrument tagged "Teachers ICT Perception Questionnaire" adapted from ICT survey indicator for teachers and staff by UNESCO (2004) was used to gather data for the study. The reliability co-efficient of the instrument is 0.82. Data collected for the study were analyzed using frequency count, simple percentages and weighted mean, while t – test was used to test the null hypotheses that guided the study at 0.05 level of significance. The results show that 24 (17%) of the teachers had access to computer in their schools. Also, it shows a high rating of very adequate with 40 (28.57%) for computer hardware, 37(26.43%) for scanner/printer, 47(33.57%) for digital calculator, 30(21.43%) for digital camera, 0% for internet access, and 12 (8.57%) for projector respectively. Moreover. Data in the study depicts grand mean of 3.0271 and grand standard deviation of 0.665 analysis of the teachers' perception about the perceived ease of using ICT. Conclusively, the use of ICTs tools such as internet, e-mail, computer, video camera, projector, in class and conferences have made it possible to overcomes barriers of space and time, and opens new possibilities for learning. It was recommended that provision of ICT tools and use among teachers particularly in secondary schools is highly necessary.

Keywords: Information and Communication Technologies, Secondary Schools, Students Teachers, Tools.

Introduction

Information and communication technology has become an important source of innovation and improvement of efficiency for many sectors across the globe. In the education sector, particularly the learning process for secondary school students both outside and inside the classroom setting. The government and other stakeholders in the education sector such as the secondary schools' managements have invested a lot to adopt ICT in the education system during the last two decades. Most secondary schools that have fully adopted ICT have recorded immense development. It is however not clear how much utilization of ICT and its applications teachers make use of. ICT is viewed as a major tool for building knowledgeable societies and particularly as a mechanism at the school education level that could provide a way to rethink and redesign the educational systems and processes, thus leading to quality education for all (UNESCO, 2003).

The importance of information and communication technology as a way of transmitting knowledge at the secondary school level cannot be overemphasized. Despite the importance of ICT to the development of the nation, the achievements of students have remained consistently poor over the years (Eze, et.al. 2003). The use of ICTs tools has captured the attention of the education community to enhance teaching and learning, but also has the capability not only of engaging students in instructional activities to increase their learning, but of helping them to solve complex problems and enhance their cognitive skills (Jonassen & Reeves, 2006). Numerous teaching strategies have been developed by expert to respond to the problem of students' poor performance in secondary schools. One of such strategies is the use of ICT which have now detracted from teaching and learning due to so many reasons such as insufficient and limited access to computer hardware and computer software, Sufficient time in the school timetable to involve students in using ICT, lack of opportunities for teachers on ICT training and teachers' lack of knowledge in integrating ICT into teaching and learning to enhance performance and innovation in curriculum development. (Adeyemo, 2010).

However, Jonassen, & Reeves (2006), suggested that, the integration of ICT into teaching depends on individual teacher's confidence and competence. Research findings have indicated that lack of teachers' confidence prevents teachers from using ICT in their teaching (Peeraer & Van Petegem, 2011). In the same vein, Snoeyink and Ertmer (2002) identified lack of computers, lack of quality software, lack of time, technical problems, teachers' attitudes towards computers, poor funding, lack of teacher confidence, resistance to change, poor administrative support, lack of computer skill, poor fit of curriculum, scheduling difficulties, poor training opportunities, and lack of vision as to how to integrate ICT into classroom instruction. Straub (2009) reported that for the use of ICT tools in teaching and learning to remain sustained, personal factors such as teacher's skills, knowledge, competencies, readiness characteristics of the love for innovations and the influences of individual's context should never be ignored as part of the planning process. Aina (2013) concluded that ICT is very good if fully integrated in secondary schools; and it can improve students' academic achievements in secondary schools. Furthermore, it has been proved that new technologies have lots of benefits on the students.

The national policy on education (2004) in Nigeria reiterates that no education system can rise above the quality of its teachers. Hence, teachers are indispensable within the teaching and learning process. Also trained and effective teachers are the principal assets of any educational system. Adako (2006) stated that if Nigeria must catch up with other developed countries at a very reasonable pace, the nation builders (teachers) must be abreast of all new

development around the world more so that the world is now seen as a global village. Considering the impact of ICTs in the modern world as conceived by Obodo (2004), it means that education reform practices should focus on equal access and quality of education which should highlight the importance of change in the education sector through the use of ICTs and equipping new generation teachers with enhanced skills to operate in this 21st century.

The assessment of teachers' use of ICT in facilitating teacher education for effective teaching and learning in secondary schools in Nigeria is still a challenge as many of the teachers cannot operate computer rather than use it to teach effectively and those under training in Colleges of Education, Institutes of Education and faculties of Education in Nigerian universities are not fully exposed to the use of ICT in the acquisition of skills and practical teaching. Though, the use of ICTs in Nigeria and African countries generally is increasing and dramatically growing and there is a great deal of knowledge about how ICTs are being used in developed countries, but however no much information on how ICTs are being introduced into schools in developing countries (Beukes, 2006). From literature, it was evident that in some schools teachers and students accessibility to ICT is very limited because of the inadequacy of ICT tools and where they are privilege, they spent less time to access internet (Chiware, 2006). This implies shortfall in teachers' knowledge of Information and Communication Technology across the developing countries which is affecting their educational standard from meeting up the global demand on education. As a matter of fact with advancement in technology in this era, availability of ICTs vis-à-vis access in term of teachers and students ratio will make learning becomes a truly lifelong activity- an activity in which the pace of technological change forces constant evaluation of teaching process itself, and making lesson presentation an exciting experience.

Teachers can use computers to simplify teaching, make learning experiences more effective and to offer students access to a variety of learning tools, especially the e-learning and alternative view-points. It affords teachers and students the opportunities to appreciate positively their cardinal tasks of teaching- learning and research activities. ICT has been a veritable tool that could be used to enhance quality of education in various ways by increasing learner's motivation and engagement, facilitating the acquisition of basic skills and enhancing teacher training. Adeyinka and Toyobo (2007) affirms that ICTs are transformational tools which when used appropriately can promote the shift to a learner-centered learning approach. Thomas, (2004) and

Fakeye (2010) revealed through a study carried out in Ibadan that most of the schools covered do not have computers, hence are not connected to the internet. He added that those who have computers do not use them for teaching but solely for administrative purposes. In another study by Okwudishu (2005), he found out that the unavailability of some ICT components in school's hampers teachers' use of ICTs. Lack of adequate search skills and of access points in the schools were reported as forces inhibiting the use of internet by secondary school teachers (Adomi and Kpangban, 2010). Also, a survey carried out by Yusuf, (2005) revealed that only one school, out of ten has computer sets. It is worth noting that none of the ten schools has internet facility. Ozoji (2003) reported in a study that most of our secondary schools do not have software for the computer to function. One of the unity schools has five computers against a population of 900 and no internet software was installed. The facilities are grossly inadequate for any meaningful teaching or learning to take place. On teachers' competence, many teachers in Nigerian secondary

schools are not competent in basic computer operation and in the use of generic software (Yusuf, 2005).

This study focuses on the need to develop appropriate strategies to face this new teaching role and additionally the students' role when integrating ICT in the teaching and learning processes. The role and perspective of teachers have become highly relevant, highlighting them as crucial players in this process. Particularly, teachers use technology depending on their perceptions and their trust in the way it can contribute to the teacher and the learning process. Through knowing what they think, we will be closer to understanding what they do or what they might do with technology in their classrooms and in relation to their work. Based on these various importance of ICT tools in teaching and learning, hence, the study assessed teachers' and students' level of utilization of ICT tools for teaching and learning in secondary schools in Lagelu local government area, Ibadan, Nigeria.

Objectives of the Study

1. To investigate the rate of accessibility of ICTs tools for teachers use in schools.
2. To determine the adequacy level of various types of ICTs available in the school.
3. To know the perception of teachers to the use of ICTs tools in schools
4. To examine the teachers' perceived usefulness of ICTs tools in schools?

Research Questions

1. What is the rate of accessibility of ICTs tools for teachers use in schools?
2. What is the adequacy level of various types of ICTs available in the school?
3. What is the perceived ease of teachers use ICTs tools in schools?
4. What is the teachers' perceived usefulness of ICTs tools in schools?

Methodology

The study was a descriptive research of the survey type. In a survey research, information is obtained from the respondents and are used to describe the population. Onwuegbuzie & Colins (2007) defined descriptive design studies to concern mainly with describing events as they are, without any manipulation of what caused the events. The target population for this study was all secondary school teachers in Lagelu local government area of Ibadan, Oyo state. Seven (7) secondary schools were randomly selected and twenty (20) teachers were equally randomly selected from each school making a total sample size for the study was 140. A modified instrument tagged "Teachers ICT Perception Questionnaire" adapted from ICT survey indicator for teachers and staff by UNESCO (2004) was used to gather data for the study. The instrument consists of two sections. Section one sought the respondents' demographic information like sex, name of school and school type. The second section contained ten (10) items which respondents were required to answer. Items 1-8 were dichotomous items. While items 9 and 10 were modified response format of Likert four-point rating scale of strongly agree (SA), agree (A), disagree (D) and strongly disagree (SD) respectively. To ascertain the reliability of the instrument after modification, it was administered on 30 respondents outside the study area. The reliability co-efficient through test retest is 0.82. Special Package for Social Science (SPSS) software version 21was used to run the analysis. Data collected for the study were analyzed using frequency count, simple percentages and weighted mean.

Results

Research Question 1

What is the rate of accessibility of ICTs tools for teachers use in schools?

Table 1: Teachers access to Information Communication Technologies (ICTs) Tools

ICTs Facilities	Frequency Of Accessibility	%	Frequency of Non Accessibility	%	Total	%
Computer	24	17.14	116	82.86	140	100
E-mail	-	-	140	100	140	100
Internet	-	-	140	100	140	100
Digital Camera	15	10.7	125	89.29	140	100
Scanner	26	18.6	114	81.43	140	100
Video Equipment	-	-	140	100	140	100
Digital Projector	20	14.3	120	85.72	140	100
Digital Calculator	88	62.86	52	37.14	140	100
Digital Printer	25	17.9	115	82.14	140	100

Table 1 above shows that 24 (17%) of the teachers had access to computer in their schools. While 116 (82.86%) of the teachers had no access to computer in their schools. In the case of E-mail and internet tools, none of the teachers in all the schools studied had access. The table also shown that 15 teachers (10.7%) indicated that they had access to digital camera while 125 (89.29%) had no access to digital camera. 26(18.6%) of teachers had access to scanner while 114(81.43%) had no access to scanner. No teachers in all the studied schools had access to video equipment. 20(14.3%) of teachers had access to digital projector while 120(85.72%) had no access. 88(62.86%) of the teachers had access to digital calculator while 52(37.14%) had no access. In the case of digital printer, 25(17.9%) had access while 115(82.14%) had no access.

Research Question 2

What is the adequacy of the various types of ICT tools available for teachers' use in schools?

Table 2: ICTs tools adequacy in schools

Ratings	Computer	Scanner/Printer	Digital Calculator	Digital Camera	Internet Access/ e-mail	Projector
Very Adequate	40 (28.57%)	37 (26.43%)	47 (33.57%)	30 (21.43%)	0	12(8.57%)
Adequate	35 (25%)	40 (28.57%)	45 (32.15%)	35 (25%)	0	18(12.86%)
Fairly Adequate	27 (19.29%)	45 (32.15%)	38 (27.14%)	45 (32.15%)	0	30(21.43%)
Poor	18 (12.86%)	18 (12.86%)	8 (5.71%)	25 (17.86%)	75 (53.57%)	35(25%)

Very poor/Non existence	20 (14.29%)	2 (1.43%)	1 (0.71%)	5 (3.57%)	65 (46.43%)	45(32.15%)
TOTAL	140(100%)	140(100%)	140(100%)	140(100%)	140(100%)	140(100%)

Table 2 above shows a high rating of very adequate with 40 (28.57%) for computer hardware, 37(26.43%) for scanner/printer, 47(33.57%) for digital calculator, 30(21.43%) for digital camera, 0% for internet access, and 12 (8.57%) for projector respectively; while adequate rating follows as thus; 35(25%) for computer hardware, 40(28.57%) for scanner/printer, 45(32.15%) for digital calculator, 35(25%) for digital camera, 0% for internet access and 18(12.86%) for projector. Under fairly adequate, computer hardware has 27 (19.29%) rating, 45(32.15%) for scanner/printer, 38(27.14%) for digital calculator, 45(32.15%) for digital camera 0% for internet/e-mail and 30(21.43%). Under poor rating, computer hardware has 18(12.86%), scanner/printer has also 18(12.86%), digital calculator has 8(5.71%), digital camera 25(17.86%), internet/e-mail has 75(53.57%) and projector has 35(25%). Under very poor/non-existence, 20(14.29%) for computer hardware, 2(1.43%) for scanner/printer, 1(0.71%) for digital calculator, 5(3.57%) for digital camera, 65(46.43%) for the internet/e-mail and 45(32.15%) for projector. Therefore, from this table 3, it was evidenced that Internet services is one of the major ICTs tools that is poor and not adequate for teachers in most of the secondary schools in Lagelu local government area of Ibadan.

Research Question 3

What is the perceived ease of teachers' use of ICT tools in school?

The responses of the teachers using the modified 4 points Likert scale of SA,A,DA and SD was subjected to SPSS software to compute the mean (x) and standard deviation(SD) The result is presented in Table below 3.

Table 3: Teachers perceived ease of using ICT

S/N	ITEM	MEAN (X)	Standard deviation (SD)	Remark
1	Using ICT makes it more easy to control the class	3.1714	0.71914	Agreed
2	ICT makes lesson more interesting to the learners	3.1214	0.73424	Agreed
3	ICT makes preparation of learning experience more difficult to teachers	2.0571	0.63892	Disagreed
4	Hardware and software problems often disrupt the lesson	3.4714	0.56826	Agreed
5	Using ICT in teaching is expensive & time consuming	3.3143	0.66879	Agreed
	Grand MEAN	3.0271	0.6659	Agreed

Note: Accepted Mean = 2.55 and above, not accepted Mean = 2.55 below (benchmark).

Data in table three above depicts a fairly mean and standard deviation analysis of the teachers' perception about the perceived ease of using ICT. Item one (1) had the mean score of 3.1714 and standard deviation of 0.71914, item two (2) had the mean score of 3.1214 and standard deviation of 0.73424, item three (3) had the mean score of 2.0571 and standard deviation of 0.63892, item four (4) had mean score of 3.4714 and standard deviation of 0.56826 and finally item five (5) had the mean score of 3.3143 with the standard deviation of 0.66879. From the table, all the items has mean scores above the benchmark except item three (3) with the mean score of 2.0571 which was below the decision point. This implies that all the items are relevant to the study except item three (3) which said that ICT makes preparation of learning experience more difficult to teachers. Conclusively, since the grand mean of 3.0271 is above the benchmark of 2.5, shows that the instrument was relevant the study.

Research Question 4

What is the teachers' perception of the usefulness of ICT?

Table 4: Teachers perceived usefulness of using ICT

S/N	ITEM	MEAN	Standard Deviation	Remark
6	Using ICT makes lesson more interesting	3.97	0.729	Agreed
7	Using ICT in my teaching is not enjoyable	2.89	0.778	Disagreed
8	Using ICT in teaching makes lesson more funning	3.48	0.774	Agreed
9	Using ICT makes lesson more diverse & easy	3.42	0.576	Agreed
10	Using ICT improves presentation of teaching aid	3.17	0.479	Agreed
11	Using ICT makes lesson more difficult	2.07	0.642	Disagreed
12	Using ICT reduces students' motivation	2.28	0.679	Disagreed
13	Using ICT impair not students' learning	2.88	0.791	Agreed
	GRAND MEAN	2.09	0.68	Agreed

Note: Accepted Mean = 2.55 and above, not accepted Mean = 2.55 below.

The result in Table 4 above shows the Mean and Standard deviation of the teacher's perception of the usefulness of ICT tools in teaching and learning. Item 6, 8, 9 and 13 with the mean score of 3.97,3.48, 3.42 and 2.88 respectively agreed that using ICT makes lesson interesting, fun, easy, improves presentation of teaching aid and improves students motivation. While item 7, 11 and 12 with the mean score of 2.89, 2.07 and 2.88 respectively has disagreement remarks. This implies that ICT does not make teaching not enjoyable, it does not make lesson more difficult and it does not reduce students' motivation rather increase their motivations.

Discussion of Findings

The finding of research question one correctly showcase the kind of ICTs tools teachers have access to in their schools. From the data collection and analysis, it was evident that in the case of E-mail and internet tools, all the teachers in all the school covered have poor access the same was applicable to video equipment. While other tools like computer, 17.14% teachers

have access to it, 10.7% teachers have access to digital camera, 18.6% have access to scanner, 14.3% have access to digital calculator and 17.9% have access to digital printer respectively. The findings are interested as they are in consonance with the earlier findings of Chiware (2006) who reported that in some schools, teachers and students accessibility to ICTs is very limited because of inadequate supply and where the ICT tools are available, they spent less time to access internet. That is why Obodo (2004) opined that education reform policy should focus on equal accessibility and equality of education which should highlight the importance of change in education sector through the use of ICTs and equipping new generation teachers with enhanced skills to operate in this 21st century.

Also, the finding of research question three (3) revealed the adequacy of ICTs tools available in the secondary schools in Lagelu local government area of Ibadan. From the data table, it was evident that ICT tools the like projector had 12(8.6%) adequate, digital camera 30(21.43%), scanner/printer 37(26.43%), computer 40(28.57%) and digital calculator 47(33.57%) respectively. This implies that the hardware materials aspect of ICTs is what was available in most of the school covered. The software aspects of ICTs are not available as a result of no internet connectivity and electricity. So, lack of internet services is one of the major ICT tools that was poor and not adequate for teachers to use in most of the secondary schools in Lagelu local government area of Ibadan. This finding was crucial for it has bearing with the finding of Ozoji (2003) in Abuja that one of the unity secondary schools covered had five (5) computers against the population of nine hundred (900) and no internet was installed. On teachers' competency, the scholar reported that many teachers in Nigeria Secondary schools are not competent in the use of ICT tools in teaching and learning.

Moreover, the findings in research question three depict the perceived ease of teachers' use of ICT tools in school. In all the schools covered, teachers agreed that using ICT make it easier to control the class and make lesson more interesting to the learners. This finding is interesting because is in consonance with the finding of Adomi, H. and Kpangban, C. (2010) that ICTs application has the advantage of heightening the motivation, helping recall of previous learning, provide new instructional stimuli, activating the learners response, providing systematic and steady feedback on any learning content. That is, all subject can be learn with the aid of ICT tools ranging from simple to complex subjects.

Finally, result of research question four showcase teachers' perception on the usefulness of ICTs in teaching. The finding revealed that teachers perceived using ICTs in teaching to be very useful because it facilitates knowledge delivery and improves learners' performance. This finding corroborates with the discovering of Ozoji (2003) who stated that in this modern society of science and technology, effective teaching and learning cannot be separated from the use of ICTs. Conclusively, it was evident also from the finding that gender has no statistical significant on the assessment of secondary school teachers use of ICTs. This means that both male and female teachers knows the usefulness of ICTs in teaching and can use it to teach irrespective of the subject

Conclusion

This study concludes that the accessibility of ICTs tools in schools were not adequately in place. The study revealed that some of the teachers engaged for this study do not have personal email address and don't make use of email for their correspondence.

The findings are interested as they are in consonance with the earlier findings of Chiware (2006) who reported that in some schools, teachers and students accessibility to ICTs is very limited because of inadequate supply and where the ICT tools are available, they spent less time to access internet. The issue of internet connectivity in school stands as a major limitation in the use of ICTs and this makes some teachers not to be interested. teachers' perception on the usefulness of ICTs in teaching. The use of ICT facilitates knowledge delivery and improves learners' performance.

Recommendations

Based on the findings of the study, the following recommendations were made:

1. The stakeholders in the school sectors should ensure that teachers have access to information and communication technology tools for use in the school in order to boast teaching and learning process.
2. The population of the students in the schools should be consider so that there will be adequate and enough ICT tools that will cater for the number of students available at the appropriate time.
3. There should be consistent seminar and training that will enhance the perception of teachers on the use of ICTs tools in schools.
4. There should be a routine evaluation report on the teachers' perceived usefulness of ICT tools in schools, this will enable the teachers to encourage the students in developing their interest on ICT.

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