 ISSN 2384-7662
E-ISSN 2705-2508

SURVEY OF DETERMINANTS OF THE UTILIZATION OF ICT FACILITIES FOR INSTRUCTION IN LAGOS STATE SECONDARY SCHOOLS

BY

Jimoh, A. S.: Department of Language, Arts and Social Science Education, Faculty of Education, Lagos State University, Ojo, Lagos, Nigeria; E-mail: akin4jimoh@yahoo.com

Bamiro, N. B.: Department of Language, Arts and Social Science Education, Faculty of Education, Lagos State University, Ojo, Lagos, Nigeria; E-mail: nurudeen.bamiro@lasu.edu.ng

Akapo, T. A.: Department of Language, Arts and Social Science Education, Faculty of Education, Lagos State University, Ojo, Lagos, Nigeria; E-mail: yominice68@gmail.com

Ibrahim, D. A.: Department of Language, Arts and Social Science Education, Faculty of Education, Lagos State University, Ojo, Lagos, Nigeria; E-mail: ibrahimdeborah47@yahoo.com

&

Ismaila, M. A.: Department of Educational Foundations and Administration, School of Education, Adeniran Ogunsanya College of Education, Ijanikin, Lagos, Nigeria; E-mail: ajisope1@gmail.com

Abstract

The study is a survey of determinants of the utilization of ICT facilities for instruction in Lagos state secondary schools. It employed the survey research design with a total sample of three hundred and sixty-two secondary school students and one hundred and twelve teachers. The sample was selected from five private and five public schools. The data obtained for the study was analyzed with simple percentages and the Pearson product moment correlation coefficient. The result shows that utilization and actual usage of ICT facilities in education have a strong positive relationship with perceived usefulness, perceived ease of use, facilitating conditions, social influence among teachers and students respectively. Based on the findings, it was recommended that the use of ICT facilities should be encouraged in schools, that effective ICT training and sensitization programmes should be organized for teachers that necessary ICT and infrastructural facilities should be provided by stakeholders (proprietress/Proprietor, Government etc.) and leadership supports by school managers and awards/ incentives should be given to teacher(s).

Keywords: Perceived usefulness of ICT, Perceived ease of ICT use, Social influence, Facilitating conditions, Actual ICT usage

Introduction

Information and Communication Technology (ICT) has become an indispensable tool that shapes human interaction in the business community, political space and knowledge industry in the 21st century. ICT learning facility is conceived as learning enhanced and supported through the use of information and communication technologies. It entails the utilization of ICT based facilities such as internet, computer, telephone, radio, video etc. and computerized learning content such as animations to support the teaching and learning process (Hawkins, Barbour, & Graham, 2012). Pedagogical process that employs the use of information and communication technology (ICT) such as the use of videos, websites, e-mail blogs, videos and interactive board reflect teachers' level of professionalism and maturity and is in turn enhances students' academic performance and perception of teachers' worth (Owen, Mustian and Liles, 2000).

Consequent upon this, the Lagos State Government and Osun State Government in South west Nigeria, having realized the role of information and communication technology in public administration, set forth an effort to ameliorate the quality of curricular offering in secondary education, which has been besieged by poor teaching methodology, negative teachers' attitude, students non-challant attitude to learning and

school works, inadequate school facilities and inequitable access to quality education. Lagos State Government in 2009 organized an ICT curriculum workshop for 600 public secondary school teachers with the aim of assisting them on effective use of ICT facilities in instructional delivery (Lagos Ministry of Information, 2011). Furthermore, the Lagos State Government through the assistance of World Bank launched the "Lagos Eko Project" in 2009 in order to strengthen the knowledge economy of the state by improving quality of instruction through employment of "Eko" teachers, upgrading of science laboratories and provision of ICT facilities such as computer sets and e-tutor softwares to enhance instructional delivery in 639 secondary schools with students' population of 620,120 as beneficiaries (Eko, 2010; 2011). The E-tutor software has two modules, which are virtual classroom learning modules and blended learning modules .The "Eko" project first phase took place between 2009 and 2013 and the second phase between 2014 and 2015.

Concurrently, Osun State Government introduces an ICT initiative tagged "Opon Imo". The ICT initiative is a curriculum innovation in the area of mobile learning in secondary schools, which was launched in Ilesa in 2013 (Osun, 2014). The ICT initiative provides PC tablets for 150,000 senior secondary school students in the state with the aim of enhancing flexibility and efficient learning. The "Opon Imo" (PC tablets) has 56 e-books covering 17 subject offerings, 17 tutorial questions for the 17 subjects, 1000 past questions, six extra-curricular subjects and educational games (Osun, 2014). The ICT innovation generated debates and mixed feelings among stakeholders in the state. However, the successful implementation of ICT innovation depends on certain variables such as teachers' characteristic, students' attitude and support from the schools and relevant stakeholders within the state (Ahmed, 2013). This is the spring board of the interest to undertake this study.

Theoretical Framework

The study hinges on the E-learning Acceptance Model (ELAM) developed by Umrani-Khan and Lyer (2013) to determine the effects of both students and teachers' factors (attitude) in technology usage. The Model states that performance expectancy, effort expectancy, social influence and facilitating conditions are critical determinants in user attitude to accept technology and behavioural intentions to use the technology. They opined further that teaching and learning styles of the teachers and the students are mediators affecting performance expectancy, belief and behavioural intention to use e-learning.

Umrani- Khan and Lyers (2013) state that

i. Performance expectancy is the degree of belief the student and teacher hold that using e-tutor will improve teaching and learning process.
ii. Effort expectancy is the extent to which the teacher and student believe that the use of e-tutor is stress free.
iii. Social influence is the degree of perception of the student and teacher about the social pressure to use e-tutor software in classroom
iv. Facilitating condition is the degree at which the teacher and student perceive institutional support (ICT infrastructure, institutional policies, training and support and leadership) to use the software in teaching and learning process.
v. Behavioural intention refers to student and teacher's decision to use the software in future teaching and learning process.
vi. Actual usage is the extent and frequency of use of e-tutor software in pedagogical process. The model diagrammatically is represented as follows:

ISSN 2384-7662
E-ISSN 2705-2508

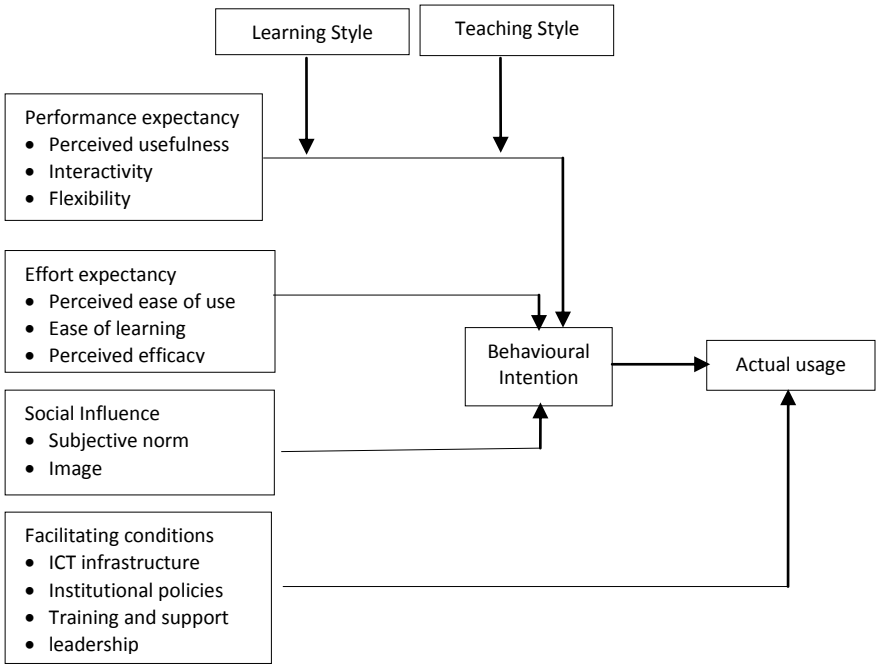

Figure 1: ELAM (E-learning Acceptance Model. (Umrani-khan & Lyer, 2013)

Statement of the Problem

Rahman (2000) and Sumintono, Wibowo, Mislan and Tiawa (2012) argued that teachers rarely utilize technology facilities in pedagogical processes due to lack of required skills and knowledge, attitude, technical difficulties such as access to computer facilities, technical support, handling and operating simple computer operations and preparing lesson plans with technological applications etc. Also, Goktas, Yildirim, and Yildirim, (2009) identified a myriad of challenges that inhibit teachers' utilization and adoption of ICT in instructional delivery as crowded classrooms, shortage of ICT support facilities, lack of computers and other presentation facilities in classrooms, lack of computer laboratories, lack of technology plans, lack of motivation and incentive for teachers and non-challant attitude of school heads. Educational institutions that seek to integrate ICT technologies in pedagogical process (especially in our divide) rarely take cognizance of the effects of teachers' and students' characteristics on ICT usage. The consequence of this neglect is the apathy manifested in the teachers and students' use of technology in their instructional processes. However, Albirini (2006) opines that teachers' and students' characteristics (in ICT usage) are major predictors of the use of new technologies in instructional settings. It is on these premises that this study seeks to find out determinants of the utilization of ICT facilities for instruction in Lagos State secondary schools, Nigeria.

Purpose of the Study

The purposes of this study are to:

1. Assess the relationship between perceived usefulness and actual usage of ICT facilities in instructional process in Lagos secondary schools.
2. Examine the relationship between perceived ease of use and actual usage of ICT facilities in instructional process in Lagos secondary schools.
3. Determine how facilitating conditions (ICT infrastructure, institutional policies, training, technical support and leadership) affect actual usage of ICT facilities in instructional process in Lagos secondary schools.
4. Ascertain the relationship between social influence and actual usage of ICT facilities by secondary school students during learning process and

5. Determine how the perceived usefulness affects actual usage of ICT facilities by secondary school students during learning process.

Research Questions

1. What is teachers' perception of the usefulness of ICT facilities for instruction in secondary schools?
2. What is teachers' perception of the ease of ICT usage for instruction?
3. How available are enabling conditions to promote teachers' usage of ICT facilities during instruction?
4. What is students' perception of the usefulness of ICT facilities during instruction?
5. Do social factors influence students' usage of ICT facilities for learning?

Research Hypotheses

Ho_1. There is no significant relationship between teachers' perceived usefulness and actual usage of ICT facilities in instructional process in Lagos secondary schools.

Ho_2. There is no significant relationship between teachers' perceived ease of use and actual usage of ICT facilities in instructional process in Lagos secondary schools.

Ho_3. There is no significant relationship between facilitating conditions (ICT infrastructure, institutional policies, training, technical support and leadership) and actual usage of ICT facilities for instruction in Lagos secondary schools.

HO_4. There is no significant relationship between social influence and actual usage of ICT facilities by secondary school students during learning process.

HO_5. There is no significant relationship between perceived usefulness and actual usage of ICT facilities by secondary school students during learning process.

Methodology

This study adopted the survey research design. The purposive and incidental sampling techniques were employed for selecting the schools and the subjects for the study. The sample size consisted of one hundred and twelve (112) teachers and three hundred and sixty-two students drawn from five purposively selected private and five public secondary schools with ICT facilities in Lagos State. The research instruments used were adopted from the ICT Utilization Questionnaire developed by Umrani-Khan and Iyer (2013) for students and teachers. The data obtained from the study was analyzed with simple percentage and Pearson product moment correlation coefficient. The reliability of teachers' and students' questionnaires obtained through the split half method and determined with the Pearson product moment correlation coefficient formula stood at 0.71 and 0.88 respectively.

Results

Research Question One:

What is teachers' perception of the usefulness of ICT facilities for instruction in secondary schools?

Table 1: Summary of Teachers' perceived usefulness of ICT facilities

	Perceive Usefulness	Total	Mean	Decision
1	Using ICT facilities in teaching increases the number of topics I can teach per day.	336	3.0	Accepted
2	ICT facilities allow me to get information form online resources (e.g. Wikipedia, Internet search engine).	334	2.98	Accepted
3	Using ICT facilities helps me to teach the topic.	331	2.95	Accepted
4	I find ICT facilities useful in my teaching.	329	2.93	Accepted
5	Using ICT facilities increases my chance of positive evaluation of my teaching capacities.	324	2.89	Accepted
6	ICT facilities enable me to teach at my pace.	324	2.89	Accepted
7	Using ICT facilities enhances my efficiency as a teacher.	314	2.80	Accepted
8	Using ICT facilities, I can interact with the students and	310	2.76	Accepted

	clarify their doubts in reasonable time.			
9	Using ICT facilities allows choosing topics to teach in order of my preference.	306	2.73	Accepted
10	Using ICT facilities in teaching enables me to accomplish tasks (e.g. teach the topic, assess assignments) more quickly.	296	2.64	Accepted
11	Using ICT facilities reduces my work load considerably.	293	2.61	Accepted
12	ICT facilities provide me the flexibility to teach anytime, from any place.	291	2.59	Accepted
13	Using ICT facilities allows me to interact with group of students working on assignments.	278	2.48	Rejected
14	ICT facilities enable me to present lessons in the form that is adapted to my teaching style.	268	2.39	Rejected
	Total	**4334**	**38.69**	

The table 1 above presents the analysis of data on teachers' perception of the usefulness of ICT facilities during instruction. In the table, the teachers' mean scores on the first twelve items ranged from 2.59 to 3.0 but rejecting the provisions of the last two items (2.39 and 2.48). The acceptance mean score is 2.50 and above while mean score below 2.50 is rejection of the item. This thereby shows the usefulness of ICT facilities in these respects. The total mean score is 38.69 (out of expected 56 mean score) which further confirmed the usefulness of ICT facilities during instruction as observed by the teachers.

Research Question Two:

What is teachers' perception of ease of ICT usage for instruction?

Table 2: Summary of Teachers' perceived ease of ICT usage

	Perceive Ease of Use	**Total**	**Mean**	**Decision**
1	I find it easy to get ICT facilities to do what I want to do.	334	2.98	Accepted
2	I find ICT facilities easy to use.	334	2.98	Accepted
3	Most of my students possess the skills to use ICT facilities.	324	2.89	Accepted
4	I possess the skills necessary to use ICT facilities tools.	321	2.86	Accepted
5	Learning to use ICT facilities tools is easy for me.	315	2.81	Accepted
6	It is easy for me to become competent at using ICT facilities.	310	2.76	Accepted
7	Using ICT facilities requires a lot of mental effort.	306	2.73	Accepted
8	My interaction with ICT facilities is clear and understandable.	278	2.48	Rejected
	Total	**2522**	**22.51**	

Table 2 presents teachers' perception of ease of ICT usage for instruction. In the table, the teachers' mean scores on the first seven items ranged from 2.48 to 2.98 but rejecting only the provisions of the last item (2.48). This thereby shows ease of usage of ICT facilities in these respects. The total mean score is 22.51 (out of expected 32 mean score) which further confirmed the ease of usage of ICT facilities during instruction as observed by the teachers.

Research Question Three:

How available are enabling conditions to promote teachers' usage of ICT facilities during instruction?

Table 3: Available facilitating conditions that promote teachers' actual usage of ICT facilities

Facilitating Conditions	**Total**	**Mean**	**Decision**

1	The ICT infrastructure at my institute is available when I need it.	334	2.98	Accepted
2	My institute provides me release time to learn and use ICT facilities.	331	2.95	Accepted
3	My institute provides incentives to *teachers* who use ICT facilities.	324	2.89	Accepted
4	My institute has provided me all the facilities I need for ICT facilities.	315	2.81	Accepted
5	There is technical help available if required while using ICT facilities.	314	2.80	Accepted
6	The head of my department/ institute supports teachers using ICT facilities.	314	2.80	Accepted
7	My institute has provided training for me to use ICT facilities.	287	2.56	Accepted
8	The head of my department/ institute uses ICT facilities.	267	2.38	Rejected
	Total	**2486**	**22.19**	

On the analysis of data on the availability of enabling conditions to promote teachers' usage of ICT facilities during instruction in the table 3 above, the teachers' mean scores on the first seven items ranged from 2.64 to 2.98 to show the availability of necessary facilitating conditions that promote ICT facilities usage in their schools but rejected the idea that the heads of their departments and/or institutions made use of available ICT facilities in their schools. The total mean score is 22.17 which is a general confirmation of the availability of enabling conditions for using of ICT facilities during instruction by the teachers.

Research Question Four:

What is students' perception of the usefulness of ICT facilities during instruction?

Table 4: Summary of students' perceived usefulness of ICT facilities

	Perceived usefulness	**Total**	**Mean**	**Decision**
1	Using ICT facilities helps me to learn the topic.	1093	3.01	Accepted
2	Using ICT facilities increases my chance of scoring higher marks.	1010	2.79	Accepted
3	Using ICT facilities in studies enables me to accomplish tasks (e.g. learn the topic, complete assignment) more quickly.	1043	2.88	Accepted
4	I find ICT facilities useful in my studies.	1132	3.12	Accepted
5	Using ICT facilities increases the number of topics I can study per day.	1033	2.85	Accepted
6	Using ICT facilities enhances my efficiency as a student.	1007	2.78	Accepted
7	Using ICT facilities reduces my study load considerably.	1058	2.92	Accepted
8	Using ICT facilities helps me to learn the topic.	989	2.73	Accepted
9	Using ICT facilities, I can interact with the teacher and get answers to my questions in reasonable time.	991	2.73	Accepted
10	ICT facilities allow me to get information form online resources (e.g. Wikipedia, Internet search engine).	1103	3.04	Accepted
11	Using ICT facilities allows me to interact with friends and work together on assignments.	1037	2.86	Accepted
12	Using ICT facilities allows me to choose topics to learn in order of my preference.	1097	3.03	Accepted
13	ICT facilities provide me the flexibility of studying the topic anytime, at any place.	1069	2.95	Accepted

14	ICT facilities provide me the flexibility of studying the topic anytime, at any place.	989	2.73	Accepted
15	ICT facilities enable me to learn lessons in the form that is adapted to my learning style.	991	2.73	Accepted
	Total	**15642**	**43.15**	

Table 4 presents data on students' perception of the usefulness of ICT facilities during instruction. In the table, the students' mean scores on the items ranged from 2.73 to 3.12. This thereby shows that ICT facilities are perceived useful by the students. The total mean score is 43.15 (out of expected 60 mean score) which further confirmed the usefulness of ICT facilities during the learning process as observed by the students'.

Research Question Five:

Do social factors influence students' usage of ICT facilities for learning?

Table 5: Students' Social Influence on ICT facilities

	Social Influence	Total	Mean	Decision
1	Most people who influence my behaviour (teachers, colleagues, and head of the department/institute) want me to use ICT facilities.	1041	2.87	Accepted
2.	Most people who are important to me want me to use ICT facilities as much as possible.	1044	2.88	Accepted
3.	In my institution, students who use ICT facilities have more prestige than those who do not.	998	2.75	Accepted
4	Students in my organization who use ICT facilities are considered to be smart.	1043	2.88	Accepted
5	Using ICT facilities adds to my status amongst my colleagues.	1141	3.15	Accepted
	Total	**5267**	**14.53**	

In table 5, the students' views on the influence of social factors on their use of ICT facilities for learning were analyzed. Their mean scores on the items ranged from 2.75 to 3.15 to show the influence of social factors on their behavioural intention to use ICT facilities in their learning process. The total mean score is 14.53 which is a general confirmation that social factors influence students' utilization of ICT in learning process.

Testing of Hypotheses

Hypothesis One:

There is no significant relationship between teachers' perceived usefulness and actual usage of ICT facilities in instructional process. The analysis is presented in table 4.

Table 6: Correlation between teachers' perceived usefulness and actual usage of ICT facilities

Variables	Pearson Correlation(r)	R Square	Degree of Relationship	Nature of Relationship	P Value	Number of Cases	Remark
• **Perceived Usefulness** • **Actual Usage**	0.715	51%	Strong	Positive	P < 0.05	112	Significant

Table 6 presents analysis of the relationship between teachers' perceived usefulness and actual usage of ICT facilities in instructional process. In the analysis, the Pearson correlation co-efficient (r) stood at

0.715 with P (0.009) < 0.05 which shows that there was a positive relationship between teachers' perceived usefulness and actual usage of ICT facilities in instructional process in the secondary schools. The effect size of correlation (r^2) shows that 51% of actual usage of ICT facilities in teaching and learning process by teachers is due to teachers' perceived usefulness of ICT facilities.

Hypothesis Two:
There is no significant relationship between teachers' perceived ease of use and actual usage of ICT facilities in instructional process. The analysis of the hypothesis is presented in table 5.

Table 7: Correlations between teachers' perceived ease of use and actual usage of ICT facilities

Variables	Pearson Correlation(r)	R Square	Degree of Relationship	Nature of Relationship	P Value	Number of Cases	Remark
• **Perceived Ease of Use** • **Actual Usage**	0.851	72%	Strong	Positive	P < 0.05	112	Significant

In the table above 7, analysis of the relationship between teachers' perceived ease of use and actual usage of ICT facilities in instructional processes is presented. The correlation coefficient (r) = 0.851 in the table with P (0.001) < 0.05 shows that there was a positive relationship between teachers' perceived ease of use and actual usage of ICT facilities in instructional processes. Hence, the null hypothesis is not upheld. The correlation (r^2) shows that 72 % of actual usage of ICT facilities in teaching and learning process by teachers is due to perceived ease of use of ICT facilities.

Hypothesis Three:
There is no significant relationship between facilitating conditions (like ICT infrastructure, institutional policies, training and technical support and leadership) and actual usage of ICT facilities in instructional process. The analysis is presented in table 6.

Table 8: Correlation facilitating conditions and actual usage of ICT facilities

Variables	Pearson Correlation(r)	R Square	Degree of Relationship	Nature of Relationship	P Value	Number of Cases	Remark
• **Facilitating Conditions** • **Actual Usage**	0.597	35%	Strong	Positive	P < 0.05	112	Sig

The table 8 above presents analysis of data on the relationship between facilitating conditions (like ICT infrastructure, institutional policies, training and technical support and leadership) and actual usage of ICT facilities in instructional process by secondary school teachers. The correlation coefficient (r) = 0.597 and the P value P (0.003) < 0.05 in the table demonstrated that there was a positive relationship between facilitating conditions (of ICT infrastructure, institutional policies, training & technical support and leadership) and actual usage of ICT facilities in instructional processes. Hence, the null hypothesis was not accepted. The correlation (r^2) shows that 35% of actual usage of ICT facilities in teaching and learning process by teachers was due to the available facilitating conditions (ICT infrastructure, institutional policies, training and technical support and leadership).

Hypothesis Four:
There is no significant relationship between social influence and actual usage of ICT facilities by secondary school students during learning process. The analysis of the hypothesis is presented in table 8.

Table 9: Correlation between social influence and actual usage of ICT facilities by secondary school students

Variables	Pearson Correlation(r)	R Square	Degree of Relationship	Nature of Relationship	P Value	Number of Cases	Remark
• **Social Influence** • **Actual Usage**	0.610	37%	Strong	Positive	P < 0.05	362	Sig

Table 9 gives the analysis of data on the relationship between social influence and actual usage of ICT facilities by secondary school students during learning processes. The Pearson correlation coefficient (r) =0.610 with the value P (0.000) < 0.05 in the table shows that there was strong positive relationship between social influence and actual usage of ICT facilities by secondary school students in their learning process. Therefore, the null hypothesis was rejected. The effect size of correlation (r^2) shows that 37% of actual usage of ICT facilities in teaching and learning process by students is due to social influence by peer and society.

Hypothesis Five:
There is no significant relationship between perceived usefulness and actual usage of ICT facilities by students in their learning process.

Table 10: Correlations between perceived usefulness and actual usage of ICT facilities by students

Variables	Pearson Correlation (r)	R Square	Degree of Relationship	Nature of Relationship	P Value	Number of Cases	Remark
• **Perceived Usefulness** • **Actual Usage**	0.781	60%	Strong	Positive	P < 0.05	362	Sig

The data in table 10 is the analysis of the relationship between perceived usefulness and actual usage of ICT facilities by students in their learning processes. The correlation coefficient (r) =0.781 in the table and the P value [P (0.000) < 0.05] show that there was a strong positive relationship between perceived usefulness and actual usage of ICT facilities by students in their learning process. Hence, the null hypothesis was rejected. The effect size of correlation (r^2) that 60% of actual usage of ICT facilities in teaching and learning process by students is due to perceived usefulness.

Discussion of Findings
The research is a survey of determinants of the utilization of ICT facilities for instruction in Lagos State secondary schools, Nigeria.. The analysis of the first hypothesis showed that there was a strong positive relationship between teachers' perceived usefulness and actual usage of ICT facilities in instructional processes in secondary schools. This finding aligns with Rogers (2003) who posited that not only the usefulness of ICT facilities but also the cost is a great determinant of positive attitude of ICT users. Several studies claimed that perceived usefulness is noted to be the most important determinant of behavioural intention to use ICT facilities (Horst, Kuttschreuter, and Gutteling, 2007; Venkatesh, Morris, Davis, and Davis, 2003).

The analysis of the second hypothesis also showed that there was a strong positive relationship between teachers' perceived ease of use and actual usage of ICT facilities in instructional process. Lunkuse (2004) argued that ICT consumers view any technological package as user-friendly if it is easy to use and learn. The ease of use and flexibility of an innovation as perceived by users is inversely related to its rate of

adoption (Rogers, 2003). Dixon (2009) argued that frequent use of ICT facilities has significant impact on users' attitude towards technological use. Dixon stressed further that the continuous usage of ICT facilities will stimulate users' sense towards the benefit of ICT in delivering work task. Bakkabulindi, Nkata and Amin (2009) emphasized that user friendliness to ICT, ease of use of ICT facilities and ease of learning any ICT product is a great determinant in its usage.

Furthermore, the test of hypothesis three showed that there was a strong positive relationship between facilitating conditions (of availability of ICT infrastructure, institutional policies, training and technical support and leadership) and actual usage of ICT facilities in instructional process. This finding supports Marwan and Sweeney (2010) who found that utilization of newest technological facilities is dependent on technical support such as easy accessibility to ICT resources, school climate and school leadership. Also, Abdullah (2006) posited that the integration of ICT in schools requires the support of school leadership and team work from co-teachers.

Obiefuna and Enwereuzo (2012) claimed that teachers are not proficient in the use and application of ICT facilities because they were not given required training on Microsoft office, computer graphics and animations, simulations and internet facilities. Also, Farrel and Wacghez (2003) assert that low usage of ICT facilities in instructional delivery by teachers was due to lack of required ICT skills by teachers. Equally, Alike and Ofojebe (2012) posited that poor teachers' attitude towards usage of various ICT facilities in pedagogical process can be attributed to inadequate or lack of ICT facilities in schools.

Equally, the test of hypothesis four shows that there was a strong relationship between social influence and actual usage of ICT facilities by secondary school students in their learning process. Venkatesh and Davis (2000) argued that perceived usefulness and usage intentions are usually being determined by social influence. Lastly, the analysis of hypothesis five showed that there was a strong positive relationship between perceived usefulness and actual usage of ICT facilities by students in the learning process. The finding is in support of Cigdemoglu, Arslan, and Akay, (2011) idea that perceived usefulness and perceived ease of use are major determinants of intention to use a technology. Also, numerous studies claimed that perceived usefulness is an indispensable factor that determines the behavioural intention to use ICT facilities (Horst et. al. 2007; Venkatesh et. al. 2003).

Conclusion

From the findings of the study, it could be concluded that the adoption, utilization and actual usage of ICTs in education have a strong positive relationship with perceived usefulness, perceived ease of use, available facilitating conditions and social influence among teachers and students respectively. This connotes that utilization of ICT facilities can be enhanced through proper training, mentoring, leadership support and provision of necessary ICT infrastructural facilities. It can also be concluded that students' use of ICT facilities is based on peer group influence and perceived usefulness of ICT facilities.

Recommendations

Based on the findings, the study recommends that:

1. Government at all levels and all stakeholders in education should endeavor to provide enabling environment and necessary infrastructure for adoption and utilization of ICT in schools.
2. Regular training and sensitization programmes for teachers on utilization of digital tools in preparing and delivering classroom instruction should vehemently be pursued.
3. School administrators should provide required support for teachers in adopting digital tools in pedagogical processes.
4. Students should be encouraged to always use ICT tools for learning and acquisition of 21st century skills.

References

Abdullah, A.T.S. (2006). *Deconstructing secondary education: The Malaysian smart school initiative*. 10th SEAMEO Innotech Conference. Pear Hall, 15-17.

Ahmed, A. A. (2013). Measuring E-learning readiness among EFL teachers in intermediate public schools in Saudi Arabia. *Canadian Center of Science and Education*. 6 (7):110-121

Albirini, A. (2006). Teachers' attitudes toward information and communication technologies: The case of Syrian EFL teachers. *Computers & Education*, 47, 373-398.

Alike, G. & Ofojebe, W.N. (2012). ICT usage in Anambra State Secondary Schools. *Unizik Orient Journal of Education.* 6(1): 128-131, Awka: The Faculty of Education Nnamdi Azikiwe University Publishers, Nigeria

Bakkabulindi, F. E. K., Nkata, J. L., and Amin, M. E.(2009). Perceived characteristics as correlates of ICT adoption in Makerere University. *Nkumba Business Journal*, 8, 110-126.

Cigdemoglu, C., Arslan, H. O., & Akay, H. (2011). A phenomenological study of instructors experiences on an open source learning management system. *Procedia - Social and Behavioural Sciences*, 28, 790-795.

Dixon, K. C. (2009). Attitudes towards ICT Based Interaction: A Bachelor of Education Studies. Available at:http://www.aare.edu.au/09pap/dix091331.pdf

Eko. (2010). *The Official Launch of Lagos Eko Secondary Education Project*. Lagos: Academy Press Plc.

Eko. (2011).*Training service providers' brochure*. Lagos: Academic Press Plc.

Farrel, G. & walghez, G. (2003). *Computer Science, a concise approach.* Oxford: Heinemann Newness publisher. London.

Goktas, Y., Yildirim, S., & Yildirim, Z. (2009). Main barriers and possible enablers of icts integration into pre-service teacher education programmes. *Educational Technology & Society*, 12 (1), 193–204.

Hawkins, A., Barbour, M. K., & Graham, C. R. (2012). Everybody is their own island: Teacher disconnection in a virtual school. *The International Review of Research in Open and Distributed Learning*, *13*(2), 124-144. https://doi.org/10.19173/irrodl.v13i2.967

Horst, M., Kuttschreuter, M. and Gutteling, J.M. (2007). Perceived Usefulness, Personal Experiences, Risk Perception and Trust as Determinants of Adoption of e-government Services in The Netherlands", *Computers in Human Behaviour, 23*, 1838–1852.

Lagos State Ministry of Information. (2011). *Speech of ministry of science and technology*. Retrieved from http://www.lagosstate.gov.ng/pagemenus.php?p=87&k=35

Lunkuse, F. (2004). *Adoption of technological innovations in Uganda's agricultural industry*. Unpublished masters (of Bus. Adm.) dissertation, Makerere University, Kampala, Uganda.

Marwan, A. and Sweeney, T. (2010). Teachers' perception of educational technology integration in an Indonesian polytechnic. *Asia Pacific Journal of Education*, 30(4): 463-476.

Masrom, M. (2007). Technology acceptance model and E-learning. *12th International Conference on Education*, Sultan Hassanal Bolkiah Institute of Education, Brunei Darussalam, pp 21-24.

Obiefuna, C.A. and Enwereuzo N.M. (2012). An appraisial of re-trained programmes for in-service teachers: The need for a paradigm shift from 29th to 21st century pedagogical skills. *Unizik orient journal of education.* 4(1). Awka: The Faculty of Education NnamdiAzikiwe University Publishers, Nigeria.

Osun. (2013). Technology: IT Players See Opportunities in Opon Imo Project Retrieved From http://osun.gov.ng/2013/10/15/technology-it-players-see-opportunities-in-opon-imo-project/

Owen, M. B; Mustian, R. D. & Liles, R. T. (2000). Integrating ICT into education systems: A criterion based framework for decision making. *Proceeding of the international conference on education and ICT in the New Millenium*, 15-27.

Rahman D. (2000). Understanding the concept of the use of ICT in the classroom. *Proceedings of the International Conference on Teaching and Learning*. 609-623.

Rogers, E.M. (2003). *The diffusion of innovations (5th ed.). NY: Free Press*. Rogers, Everett. Diffusion of Innovations. Iowa StateAgricultural Experiment Station Special Report no. 18. Ames: Iowa State University.

Sumintono, B.S.A., Wibowo, N. Mislan & Tiawa, D. (2012). The use of information and communication technologies in teaching: A survey on SMP science teachers in Indonesia. Journal of Teaching MIPA, 17(1): 122-131.

Umrani-khan, F. and Lyer, S. (2013). *E-learning Acceptance Model (ELAM): A model for acceptance and use of e-learning by teachers and students*. Retrieved from http://www.it.iitb.ac.in/~sri/papers/elam-icel09.doc

Venkatesh, V. and Davis, F. D. (2000). A Theoretical Extension of the Technology Acceptance Model: Four Longitudinal Field Studies, *Management Science*, Vol. 45, no. 2, pp186-204.

Venkatesh, V., Morris, M. G., Davis, G. B., and Davis, F. D. (2003) "User Acceptance of Information Technology: Toward a Unified View", *MIS Quarterly*, Vol. 27, No. 3, pp 425-478.