

The Use of E-Library on Teachers' Instructional Delivery in Public Secondary Schools in Akwa Ibom North-West Senatorial District

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Abstract

The study investigated the use of e-library on teachers' instructional delivery in public secondary schools in Akwa Ibom North-West Senatorial District of Nigeria. One research question and one hypothesis were formulated as well as a correlation research design was used to guide the study. The study's population comprised all the two thousand, three hundred and ninety (2,390) teachers and fifteen thousand, eight hundred and forty-eight (15,848) students in the eighty-six (86) public secondary schools in the North-West Senatorial District of Akwa Ibom State. Using proportionate sampling technique, three hundred and fifty-six (356) teachers were selected as sample size for the study. The instruments for data collection were two sets of questionnaire developed by the researcher with the title ICT Facilities Questionnaire (IFQ) and Teachers' Instructional Delivery Questionnaire (TIDQ). The reliability coefficient of the instruments were established using Cronbach's Alpha Analysis with the reliability co-efficient alpha of 0.866 for ICT Facilities Questionnaire (IFQ) and 0.786 for Teachers' Instructional Delivery Questionnaire (TIDQ). Data collected were analyzed using Simple Linear Regression Analysis at .05 level of significance. The result of the analyses revealed that the use of E-library significantly predict teachers' instructional delivery in public secondary schools in Akwa Ibom North-west Sensational District. Based on these findings, it was recommended among others, that government should encourage the use of ICT facilities by making them available in public secondary schools in Akwa Ibom North-West Senatorial District. Moreso, teachers should be trained to make use of these facilities effectively through workshops, seminars and conferences.

Introduction

One of the most remarkable developments in our age has been in the area of Information and Communication Technology (ICT). This has been variously described as information explosion, information breakthrough, information age or information society (Nkanu, 2003). According to Oyinloye (2001), mankind has witnessed phenomenal growth in the number and variety of information products, services, systems and sources such as the internet and Global System of Mobile Communication (GSM). The catalyst of growth has been occasioned by the rapid innovations in electronic technologies for creating, processing, communicating and using information. These innovations have promoted the creation and accumulation of data and information resources, development of network among information systems, expansion of markets for information products, services and increase in the information sophistication of the society. Scholarly information for academic research is increasingly available online via the World Wide Web (w.w.w) and other search engines. The Academic Library of the twenty-first century is transporting access via the internet for scholars to the scholarly and authoritative texts and data they need for their research. However, the use of Information and Communication Technology (ICT) in teaching is ever relevant and functional in providing basic and qualitative education to learners. Almost every sphere of life requires the use and support of skills in technology, collaboration and teamwork; all of which can be acquired through teaching with ICT. Bandele (2006) conceptualized that ICTs is a revolution that involves the use of computers, internet and other telecommunication technology in every aspect of human including educational organization. According to Ofodu (2007), ICT support tools can be defined as electronic or computerized devices assisted by human and interactive materials that can be used for a wide range of teaching and learning and for public or personal uses. Milken Exchange (1999) maintained that ICT is a computer-based tool used by people to work with the information and communication processing needs of an organization. It encompasses the computer hardware and software, the network and several other devices (video, audio, photography, camera, etc) that convert information (text), image, sound, motion and so on into common digital form. ICT has a wide spectrum of applications with enormous relevance to secondary school teaching and learning activities. Philip (2003) opined that, the organizational ability (secondary school) to learn and subsequent applications of learnt concepts could determine its survival, progress, development and proper ranking of institutions in the world-wide global competitive markets. This type of growth in fact could be dependent upon ability to quick response to changes and adaptation to new-found technologies. This ICT is fundamentally changing the way we live, learn and work (Salem, 2000; Raymond, 2000; Reid, 2002; Pelgram, 2003; Aladejana, 2007; Parveen, and Rajesh, 2011 and Shah, 2014). ICT has transformed the means by which we inform ourselves, learn and remain up to date with world events and areas of personal interest and further learning. In the school system in Nigeria, ICTs are seen as important tools that enable and support the move from traditional 'Teacher-Centric' teaching styles to a more Learner-Centric' Methods. The 'Teacher Centric' teaching style otherwise called Conventional Methods or Teacher-Directed Instruction (TDI) is a learning encounter in which the learning objectives, learning content, pace and manner of presentation as well as evaluation strategies are dictated and controlled by the teacher. In a Teacher-Directed Instruction (TDI) strategy, the teacher is the custodian of knowledge while learners are merely passive recipients of information. The learners

do not play an active role in their own learning. In fact what they learn depends on the amount of information given by the teacher. In this regard, the teacher uses any of the conventional methods to direct instruction. Thus teaching is mainly teacher dominated and teacher centered. The Teacher-Directed Instruction (TDI) has dominated classroom instruction over the years. However, information and communication technologies which exert tremendous impact on all aspects of human activities have necessitated changes in the instructional process. The present paper is on the use of e-library on teachers' instructional delivery in public secondary schools in Akwa Ibom North-West senatorial district.

Purpose of the Study

This study examined the use of E-library predicts Teachers' Instructional Delivery in public Secondary Schools in Akwa Ibom North-West Senatorial District.

Significance of the Study

The findings of the study would be of immense benefit to all teachers and students in public Secondary Education in the North-West Senatorial District of Akwa Ibom State. Information derived from the study may go a long way in helping Secondary School administrators, Local Education Commission, and the State Secondary Education Management Board to provide and encourage the need and importance for the utilization of ICT facilities for effective teaching and learning. Again, the findings of this study would be of immense benefit to the Ministry of Education on the proper and timely distribution of the available educational materials and resources to schools so as to ensure effective instructional delivery in the school system.

Research Question

To what extent does the use of e-library predicts teachers' instructional delivery in public secondary schools in Akwa Ibom North-West Senatorial District?

Null Hypothesis

The use of e-library does not significantly predict teachers' instructional delivery in public secondary schools in Akwa Ibom North-West Senatorial District.

Delimitations of the Study

The study is delimited to all public Secondary Schools in Akwa Ibom North-West Senatorial District of Akwa Ibom State, Nigeria. The study covered 2016/2017 school year. Only five variables of ICT facilities were considered in the study. These are e-library, Cyber Café, Computer System, Multimedia Classroom Projection and Educational Management Information System. The study was delimited to the sample of three hundred and fifty six (356) teachers in the selected public secondary schools in Akwa Ibom North-West Senatorial District.

Definitions of Terms

1. **ICT Facilities:** These are information and communication technology – based tools and

resources used in facilitating teaching and learning activities.

2. **E-library:** This is an electronic library primarily concerned with non-printed information. Through the use of e-library, one can reach out to various on-line texts and journals in order to improve teaching and learning processes effectively.

3. **Teachers' Instructional Delivery:** Is the ability of making use of available educational resources to achieve educational goals and set objectives.

Review of Related Literature

The Concept of Information and Communication Technologies (ICTs)

According to Ogunsola (2005), ICT is an electronic based system of information transmission, reception, processing and retrieval, which has drastically changed the way we think, the way we live and the environment in which we live. Oliwenei (2005) asserts that information technology encompasses all those technologies that enable the handling of information and facilitates different forms of communication among human actors, between human being and electronics systems and among electronic system. For Udidia (2005), these technological facilities include text books, tapes, radios, televisions, telecommunication, global system of Mobile Communication Network (GSM), scientific measurements, computer, internets, C.D. Roms, E-mail, libraries, tape recorders, floppy disc for teaching and learning (Stewart, 2000; Sofoluwe, 2007; Roller & Wavermart, 2011; Oshinaike & Adekunmisi, 2012 and Owate,. & Nnanna, 2014).

E-Library and Teachers' Instructional Delivery

A library is fundamentally a more organized set of resources, which includes human services as well as the entire spectrum of media such as text, video, hyper media, etc. Libraries have physical components, namely: space, equipment, storage media, intellectual components such as collection of policies that determine what materials will be included and organizational schemes that determine how the collection is accessed; people who manage the physical and intellectual components. Library is one of the facilities that contribute to the effective teaching and learning processes. Iyanda and Salawu (2006) described library as a public institution or an establishment charged with the care of a collection of books, the duty of making them accessible to those who requires the use of them and the task of converting every person in its neighborhood into habitual library goer and reader of books. All resources for knowledge acquisition, recreation, personal interests and inter-personal relationship are provided in the libraries. Library resources are many and varied, but they can be divided into two broad categories, namely; printed and non-printed materials. The printed materials are books, pamphlets, periodicals, newspapers and reference. Non-printed resources can be grouped into three, namely; audio, visual and audio-visual. We also have electronic resources as part of resources in the libraries. They are the product of advanced technology, some of which required special equipment to operate. Opie (2003) described e-library as the internet where information is provided through different sources and displayed. The use of the internet computer enables researchers and teachers to access the relevant information needed for research and teaching. E-Library is primarily concerned with these non-printed information resources. Teachers need this information for purposes of impacting knowledge to students and self development. E-Library has contributed immensely to

the easy acquisition, processing, storage and dissemination of information. Through the use of e-library, a teacher can reach out to various on-line texts and journals which will improve teaching and learning processes effectively. Thus, the facilities of e-Library resources increases teachers' instructional delivery. Many research studies have been conducted on e-Library and teachers' instructional delivery. In a study by Bassey and Odu (2015) on Utilization of E-library Resources and Services by Undergraduate Students in the University of Calabar". The result revealed that e-library predicts teachers' instructional delivery in the school environment. It was recommended that number of computers used in e-library should be increased, e-library staff should be trained with the requisite technical skills to manage the resources effectively and the directorate of ICT should ensure that there is internet access and networking within the university community for effective instructional delivery. In another development, Nwana (2012) conducted a study on the application of e-library and e-learning in secondary schools in Onitsha North Local Government Area, Nigeria. Two hundred and twenty five (225) teachers in public secondary schools were used as sample for the study. A self-developed instrument (TIUELM) on the availability and use of e-learning materials were used for data collection. The instrument contained 25 items. The reliability co-efficient of the instrument stood at .88. The data collected were analyzed using frequency distribution and mean. The findings revealed: acute shortage of e-library, e-learning materials such as on-line/internet connected computers, e-mail facilities, multimedia television, multimedia computer and digital library promote teachers instructional delivery in secondary schools. It was recommended among other things that, the government should embark on a massive computer training program for teachers. Teachers should be trained and retrained through in-service training, seminars, workshops and conferences for acquisition of the knowledge and skills needed for e-library learning and application in secondary schools in Nigeria. A similar study was conducted by Adeoyo and Popoola (2011) on teaching effectiveness, accessibility and use of library and information resource among teaching staff of nursing in Osun and Oyo state Nigeria. The population consisted of eight (8) schools of Nursing in Osun and Oyo States. Since the aim of the study was to determine the relationship between the use of e-library as ICT facilities and teachers' instructional delivery, total enumeration technique was used to cover all 156 teaching staff in 8 schools of Nursing in Osun and Oyo States. Two research questionnaires were used as an instrument for data collection. The findings of the study revealed that majority of respondents use e-library for research and preparation of notes for their student. In essence, the results of the study revealed that there is a significant positive correlation between availability and the use of e-library as ICT facilities and teachers' instructional delivery. It was recommended that provision of more ICT facilities such as internet, CD-ROM drive will promote teachers' instructional delivery.

Research Method

Design of the Study

The research design used for this study was correlation design. This was employed in this study because it involves collection and evaluation of data from teachers and students on ICT and Teachers' Instructional Delivery in Public Secondary Schools in North-West Senatorial District of Akwa Ibom State.

Area of the Study

The study was conducted in Akwa Ibom North-West Senatorial District of Nigeria. The district has ten (10) Local Government Areas, viz: Abak, Essien Udim, Etim Ekpo, Ika, Ikot Ekpene, Obot Akara, Ikono, Ukanafun, Oruk Anam, Ini with nine (9) educational zones and 86 public secondary schools. The district is popularly known as Ikot Ekpene Senatorial District. Ikot Ekpene is located between latitudes 50/0' North and latitude 7020' and 7045 East. It lies on the North – Western flank of Akwa Ibom State. Its position makes it one of the economic gateways of Akwa Ibom State. The natural resources in this area include palm produce, kernel oil, raffia, gravel, sharp sand, laterite, clay and timer. Beside few civil servants and businessmen, the people of this area are basically farmers, craftsmen, hunters, raffia craftsmen, woodcarvers and artisans. Their rich cultural heritage is expressed in Ekpo, Abiakpo, Uta, Ikon for men, Asian Akananwan for women, Asian Uboikpa, Mkpopo and Abang. The area is so chosen so as to encourage the use of ICT facilities in teaching-learning processes.

Population of the Study

The population of the study comprised of all teachers and students in the 86 Public Secondary Schools in North-West Senatorial District of Akwa Ibom State. The population of teachers was 2,390 and that of students was 15,848 (Akwa Ibom State Secondary Education Board, 2016).

Sample and Sampling Technique

Multi-stage sampling technique was used for the study; these include simple random sampling and proportionate sampling. First of all, simple random sampling with balloting and replacement was used to select forty three (43) public secondary schools from nine (9) educational zones of the district. This gave fifty percent (50%) of eighty-six (86) schools in the Senatorial District. Secondly, proportionate sampling technique was used to select three hundred and fifty-six (356) teachers for the study while the students were used in rating teachers' instructional delivery.

Table 1: Sampling Frame for ICT Support and Teachers' Instructional Delivery in Public Secondary Schools in North-West Senatorial District of Akwa Ibom State.

S/N	Education Zones	No. of Schools	Percentage of school (50%)	Population of Teachers	Sample of teachers (15%)	Population of students (SS3)	Sample of students
1	Abak	10	5	431	65	1245	87
2	Etim Ekpo	12	6	227	34	1833	128
3	Obot Akara	6	3	152	23	1453	102
4	Ikot Ekpene	7	4	377	57	1668	117
5	Ini	8	4	145	22	1976	138
6	Essien Udim	10	5	287	43	2450	172
7	Ikono	13	6	303	46	2502	175
8	Ukanafun	6	3	160	24	1453	102
9	Oruk Anam	14	7	308	46	1268	89
	Total	85	43	2,390	356	15,848	1109

Sample = 356

Instrumentation

Two researcher's developed instruments were used for the study. "ICT facilities questionnaire" "(IFQ)" and "Teachers' Instructional Delivery Questionnaire" "(TIDQ)" were used for data collection. The construction of the questionnaire was guided by the views and findings from the related literature review. The first instrument ICT Support Questionnaire "(ISQ)" which was mainly for teachers on ICT Support was of two sections namely: sections "A and B". Section A was constructed to elicit background information on respondents while section B addresses ICT Support items and response options. Section "B" was sub-divided into five sub-sections of ICT Support. Each section contained some items made up of 25 items to determine the impacts of the five variables - (E-library, Cyber Café, Computer System, Multimedia Classroom Projector and Educational Management Information System). The second instrument, Teachers' Instructional Delivery Questionnaire "(TIDQ)" had 15 items accessing teachers' instructional delivery. The two instruments were structured on a 4-point rating scale with 4 response alternatives of strongly agreed (SA), agreed (A), disagreed (D) and strongly disagreed (SD) respectively.

Validation of the Instrument

The face validation of ICT Facilities Questionnaire "(IFQ)" and Teachers' Instructional Delivery Questionnaire "(TIDQ)" was ascertained by two experts in the field of Educational Evaluation and Educational Management and Planning, Faculty of Education, University of Uyo. Based on their approval, the researcher was approximately guided by his supervisor in the development of the final version of the instrument.

Reliability of the Instrument

The reliability of the instrument were established by using the respondents that were not part of the actual study. Fifty teachers and students were from schools in the North-West Senatorial District that were not selected for the study. The data collected were subjected to Cronbach Alpha Statistical Analysis to determine the internal consistency of the instrument. Cronbach Alpha method was used for the analysis because it is considered best for aggregate scores or instrument with multiple items (Ogbazi & Okpala, 1994). The result of the analyses indicated reliability co-efficient alpha of 0.866 for ICT Facilities Questionnaire "(IFQ)" and 0.786 for Teachers' Instructional Delivery Questionnaire "(TIDQ)" and considered reliable enough for this type of study.

Administration of the Instrument

A letter of introduction from the Department of Curriculum Studies, Educational Management and Planning and a letter of permission to use the schools were presented to principals in their respective schools which contain detailed information about the researcher and the aim of their visit for proper understanding and maximum cooperation before the questionnaires was given to the respondents. At the end of 4 weeks, 86% copies of the questionnaire were properly responded to and retrieved. Therefore, 306 sets of data were retrieved for coding and analysis.

Method of Data Analysis

R and R² value was used to answer the research questions while simple linear regression analysis was used to analyse the data and to test the null hypotheses. All the null hypotheses were tested at .05 alpha level.

Data Analysis, Results and Discussion of Findings

Data Analysis and Results

Answering the Research Question

To what extent does the use of E-library predicts Teachers' Instructional Delivery in Public Secondary Schools in Akwa Ibom North-West Senatorial District?

Regression Coefficient (R) was used in answering this research question. The result of the analysis is presented in Table 1.

Table 2: Result of simple linear regression analysis for the nature of relationship between the use of E-library and teachers' instructional delivery (N = 306)

Variable	R	R-square	Percentage of contribution	Std. Error
The use of E-library	0.338	0.114	11%	2.79608
Teachers Instructional Delivery				

Predictors: (Constant), The use of e-library.

Data in Table 2 show the R and R² for the strength of the relationship and coefficient of determination between the use of e-library and teachers' instructional delivery. This is shown by the calculated R of 0.338 (correlation coefficient). The square of the coefficient (R²) of 0.114 is the linear correlation between the use of e-library and teachers' instructional delivery. The calculated R² of 0.114 which is the coefficient of the determination indicates that the use of e-library contributes only 11% to the variations in teachers' instructional delivery. The result shows that the use of E-library to an extent predicts teachers' instructional delivery in public secondary schools in Akwa Ibom North-West Sensational District.

Testing of the Null Hypothesis

Hypothesis : The use of e-library does not significantly predicts teachers' instructional delivery in public schools in Akwa Ibom North-West Senatorial District. Simple linear regression analysis was used to test this hypothesis and the result is presented in Table 6.

Table 2: Result of Simple Linear Regression Analysis for the extent of relationship between the use of e-library and Teachers' Instructional Delivery

Variable	Sum of squares	df	Mean Square	F-cal	F-crit	Decision at P<.05
Regression	53733.516	1	1435.964	183.673	3.86	

Residual	186736.56	305	7.818	*
Total	240470.08	306		

* = Significant at $P < .05$

The result of the analysis presented in Table 2 revealed that the calculated-F value of 183.673 is greater than the critical-F value of 3.86 with degrees of freedom (df) 1 and 305 at 0.05 level of significance. This implies that the null hypothesis is rejected. This shows that the use of e-library to an extent predicts teachers' instructional delivery.

Finding of the Study

The use of e-library significantly predicts Teachers' Instructional Delivery in Public Secondary Schools in Akwa Ibom North-West Senatorial District.

Discussion of Findings

E-library and Teachers' Instructional Delivery

The result of the research question and research hypothesis on e-library as an ICT facility and teachers' instructional delivery in public secondary schools in Akwa Ibom North-West Senatorial District revealed that e-library predicts significantly teachers' instructional delivery. This implies that through the use of e-library, teachers can reach out to various on-line texts and journals which will improve teaching and learning processes effectively. Thus, the availability of e-Library resources such as, audio, visual and audio-visual resources increase teachers' instructional delivery. The findings of this study agree with the findings of Nwana (2012) who conducted a study on the application of e-library and e-learning in secondary schools in Onitsha North Local Government Area, Nigeria. Two hundred and twenty five (225) teachers in public secondary schools were used as sample for the study. The data collected were analyzed using frequency distribution and mean. The findings revealed: acute shortage of e-library, e-learning materials such as on-line/internet connected computers, e-mail facilities, multimedia television, multimedia computer and digital library promote teachers instructional delivery in secondary schools. It was recommended among other things that, the government should embark on a massive computer training program for teachers. Teachers should be trained and retrained through in-service training, seminars, workshops and conferences for acquisition of the knowledge and skills needed for e-library learning and application in secondary schools in Nigeria. The result of this study is in line with the findings of Bassey and Odu (2015) on the utilization of e-library resources and services by undergraduate students in the University of Calabar. In this study, survey design was used. Accidental sampling technique was used to select 300 respondents for the study. The instrument for data collection was a questionnaire and the data generated were analyzed using descriptive statistics. The result revealed that e-library significantly predicts instructional service delivery in the school environment. It was recommended that number of computers used in e-library should be increased, e-library staff should be trained with the requisite technical skills to manage the resources effectively and the directorate of ICT should ensure improved internet access and networking within the university

community for effective instructional delivery.

Summary and Conclusion

The study investigated the use of e-library on teachers' instructional delivery in public secondary schools in Akwa Ibom north-west senatorial district. One objective, one research question and one null hypothesis were formulated to guide the study. The area of the study was in North-West Senatorial District of Akwa Ibom State. Correlation research design was used for the study. The population consisted of all the teachers and students in the eighty six (86) public secondary schools in the North-West Senatorial District of Akwa Ibom State. The total number of teachers were two thousand, three hundred and ninety (2,390) while students were seventeen thousand, six hundred and eight (17,608). Multi-stage sampling technique was used for the study; these include simple random sampling and proportionate sampling. First of all, simple random sampling with balloting and replacement was used to select forty three (43) public secondary schools from nine (9) education zones of the district. This gave fifty percent (50%) of eighty-six (86) schools in the senatorial district. Secondly, proportionate sampling technique was used to select three hundred and fifty six (356) teachers for the study while the students were used in rating teachers' instructional delivery. The instrument for data collection was two (2) separate questionnaire developed by the researcher with the title ICT Facilities Questionnaire "(IFQ)" and Teachers' Instructional Delivery Questionnaire "(TIDQ)" with section A and B made of 25 and 15 items structured on a 4-point rating scale for the respondents (teachers and students) ranges from Agreed, Strongly Agreed, Disagreed and Strongly Disagreed. The reliability of the instruments was established using Cronbach's Alpha analysis. Data collected were analyzed using simple linear regression analysis at .05 level of significant. The result of the analyses revealed that e-library significantly predicts teachers' instructional delivery in public secondary schools. Based on these findings, it was recommended among others that government should encourage the use of ICT facilities by making them available in public secondary school in Akwa Ibom North-West Senatorial District.

Recommendation

ICT training should be made a compulsory part of teachers' training curriculum to equip teachers with the necessary ICT skills and knowledge.

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**Appendix I
 Questionnaire**

ICT Support Questionnaire (ISQ)

Instruction: Please kindly indicate to what extent you agree with the following statements by ticking (√) the appropriate column in the alternative from the highest to the lowest.

- SA - Strongly Agree
- A - Agree
- D - Disagree
- SD - Strongly Disagree

/N	STATEMENT	A			D
	Section A: E-library				
	There is e-library in my school.				
	There is constant power supply in my school.				
	E-library in my school is functional.				
	I access e-library regularly.				
	E-library makes my lesson plan richer.				

Appendix II

Teacher's Service Delivery Questionnaire (TSDQ)

Instruction: Please kindly indicate to what extent you agree with the following statements by ticking (√) the appropriate column in the alternative from the highest to the lowest.

- SA - Strongly Agree
- A - Agree
- D - Disagree
- SD - Strongly Disagree

/N	My Teacher	A			D
	Starts class promptly.				
	Gives assignment to class on daily basis.				
	Marks assignment and returns it to student.				
	Improves most of his instructional materials.				
	Comes to school regularly.				
	Use difference materials in teaching lessons.				
	Is very resourceful.				
	Does not give assignment regularly.				
0	Is very harsh to student.				
	Is very disorder when written on the chalkboard?				
1	Dost not encouraged group work.				

2	Is indifference to student's problems				
3	Encourages students to ask/answer questions in class.				
4	Encourages participation during each lesson.				
5	Is very innovative.				