

AVAILABILITY AND UTILIZATION OF INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) FACILITIES IN TEACHING OF ECONOMICS IN SENIOR SECONDARY SCHOOLS IN NSUKKA EDUCATION ZONE

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Abstract

The study was to determine the availability and utilization of information and communication technology (ICT) facilities in teaching of economics in senior secondary school in Nsukka Education Zone, Enugu State. Three research questions guided the study. The study adopted Descriptive survey research design. The population for the study comprised all the fifty-nine (59) SSS 2 Economics teachers in the 62 schools in Nsukka education zone that offered Economics. No sample and sampling technique was use because the entire population of the study was manageable. The instruments used for data collection were checklist and structured questionnaire developed by the researcher for the purpose of the study and it was subjected to face validation by three experts, one in Measurement and Evaluation and two in Social Science Education, (all from Faculty of Education) in University of Nigeria, Nsukka. Both instruments were tested for reliability on 30 SS2 Economics Teacher in Girls Secondary School, Owere-Ezeorba in Orba, Udenu L.G.A which is not part of the study area and overall reliability was 0.83. Data collected were analyzed using percentages, mean and standard deviation with the aid of statistical package for social science (SPSS). Findings revealed that computers, projectors, scanners, interactive white board, photocopying machines, printers among others were available and fully utilized while condenser microphone, iPad, website, what sap, face book, e-mail among others were not available and were not fully utilized for teaching and learning of Economics in senior secondary schools. However, some difficulties in using ICT facilities includes high cost of purchasing ICT facilities/components, Lack of access to internet services in my school, Lack of maintenance culture on the part of the management, among others. The Study also recommendations that Government should assist in the supply of some of these few facilities found not available in schools such as condenser microphone, iPad, website, what sap, face book, e-mail, Tele conferencing devices, ATM cards, credit cards, radio, television set, internet services for teaching and learning of Economics in senior secondary schools among others..

Keywords: Availability, utilization, ICT, teaching and economics.

Introduction

Economics is one of the elective social science subjects offered by students at the senior secondary schools level in Nigeria. The subject deals with production, exchange and consumption of various commodities in the economic systems. It shows how scarce resources can be used to create wealth and improve other related human welfare. The central focus of Economics is scarcity of resources and choices among alternative uses. Economics has been defined by Adam Smith cited in Tamilnadu Educational Services Corporation (2015) as the wealth of Nations. The term “wealth” has a special meaning in Economics. In the ordinary sense, “wealth”, means money. However in Economics, wealth refers to those goods and services which satisfy human wants and needs. Another important definition of Economics is that of Robbins (1932) cited in Asogwa (2018) which perceived Economics as a science

which studies human behaviour as a relationship between ends and scarce means which have alternative uses. This means that Economics aims to explain how Economy works and economic agents interact by solving the societal economic problems. Economics as a secondary school subject is very important in everywhere in human activities and the economy. Economics as a secondary school subject is a broad field of knowledge that is concerned with the economic and social relations of human life. It is a science supported by many disciplines or areas, among which is microeconomics, applied economics, monetary economics, mathematical economics and so on. Economics as a subject is recognized as a viable course towards national development. Thus, the emphasis is on social science, science and technology, which have brought awareness that Economics solves socio-economic and political problems in modern society.

Economics is studied for many reasons at the senior secondary level today. Some of the reasons include to understand how the world works; making the world a better place to live; developing power of critical thinking and helping to make the individual a practical man, (National Education Research Development Centre, 2008). To achieve the above objectives, the subject needs to be effectively taught by teachers. Teaching is an organized instructional process that is consciously geared towards transforming and developing learners' intellectual ability, skills, and values to enable them function effectively and become self-reliant, and contribute positively to societal development. Ekwueme & Igwe cited in Asogwa (2018). In the context of this study, teaching is a joint description of teacher and learners' complimentary and interdependent classroom activities initiated and directed towards helping learners to access knowledge, increase understanding, develop concepts and practice skills to achieve a set of learning objectives and specified standards within a formal school system. Teaching is the act of giving instructions in knowledge, skills and competences to learners with a view to making them knowledgeable, skillful and competent in the subject matter in order to enable them apply what was learnt in a new situation and have the capacity to solving new challenges in their environment (Ikem, 2014). Operationally, teaching is the act of imparting knowledge, skills, values or attitudes to the learners in order to apply what was learnt in our different society. Teacher is the one who is involves in guiding learners through instruction, demonstration, explanation and practice to help them understand or master a subject. Teacher act as a facilitator of learning, role model, classroom manager, evaluator among others. 21st century teacher is an educator who effectively integrates digital tools and technologies into their teaching practices to enhance learning, promote engagement and prepare students for a digital world.

Information and Communication Technologies (ICT) have been identified as an indispensable tool for the development of quality teaching and learning in the educational system. Information and Communication Technology (ICT) is fundamental to the preparation of students in meeting the innovations in the global arena. Information and communication technologies (ICT) is defined as a diverse set of technological tools and resources used to transmit, store, create, share or exchange information (UNESCO, 2017). ICT could be explained or described as processing and sharing of information using all kinds of technologies such as facebook, WhatsApp, printer, personal computer system, lap tops, televisions, projectors, phones, Radios speakers, amplified public address systems, CDs, diskettes, micro phone, audio and video recorder etc for the manipulation and communication of information. Importance of ICT in teaching and learning cannot be overemphasizes. ICT provides teachers with a wide range of tools to enhance their teaching methods. Digital platforms allow educators to present information in more interactive and visual ways through

multimedia, animations, and virtual simulations. This not only helps in better explanation of complex concepts but also keeps students more engaged. ICT fosters student-centered learning by encouraging students to take an active role in their education. With access to the internet, students can conduct research, access online libraries, and explore educational content beyond textbooks.

As the world changes, information and knowledge also change rapidly. Teaching and learning processes as well as the management of schools also change. The use of information and communication technology (ICT) can improve quality of education, expand learning opportunities and make education accessible through its availability. Availability refers to being easily obtainable and ready for use. Availability of ICT facilities refers to its existence as provided by and/or to the secondary schools for use in teaching and learning (Dambo & Umah, 2018). ICT resources that are supposed to be available for teaching based on ICT policy in Nigeria include telephone, websites, electronic library, internet facilities, global system for mobile communication, white board, television, radio broadcast, storage devices, (compact disc) , teleconferencing device, credit cards, ATM cards, face book, web site, electronic-mail, interactive radio counseling, interactive voice system, audio-cassette, power point device, photocopier, micro film and computer among others. Now, looking at the role of education in national building and the rapid increase in population being witnessed in secondary schools these days, the availability of ICT in teaching becomes imperative considering the benefits. Therefore, ICT teaching facilities have to be readily available in secondary schools for ICT integration and effective delivery of lessons. Studies have shown that the availability of ICT facilities is no longer the major concern of teachers in developed countries, but rather, how best to integrate these facilities into teaching and learning (Tella, Orim, Ibrahim & Memudu, 2020; Cosgrove et al., 2018). However, research findings concerning the availability and utilization of ICT facilities especially in the Nigerian secondary schools appeared inconclusive (Ifeakor & Okoli, 2019). Some studies found facilities to be available (Olelewe & Okwor; 2020; Obahiagbon & Osahon, 2019). While others found them either adequate or not adequate (Muhammad & Yagana, 2018). Where some of these ICT facilities are available, they appear to be underutilized (Tella et al., 2020; Amusa & Atinmo, 2019). However, Availability and utilization of ICT facilities are the major challenges facing most secondary schools in Nigeria today.

Utilization means ability to use something for practical purpose. According to Anderson and Ainley (2010), one of the basic conditions for utilizing technological tools in delivering curriculum content is access to the required technological tools. Also, Ayim (2018) noted another condition for active utilization of technological product or services in education as competency and expertise of users in utilizing the technological tools and resources. Supporting this, Abah (2019) opined that in assessing the utilization of technology to drive task performance in education, the issue of access and skills remain primordial condition for the use. It is the extent to which a given ICT facilities is being used in the teaching of the subject Economics. Utilization of ICT connotes the presentation and distribution of instructional content via the electronic devices (e-teaching) to support learning and communication (Yusuf, 2011). Utilization of ICT is the adoption of communication technologies for the purpose of achieving content delivery and for retrieving feedback from learners to attain the core objective of the content (Egomo, Enyi, & Tah, 2012; Yusuf, 2011). In the context of this study, utilization explains how often or regularly the teachers use available ICT facilities to facilitate instructional delivery of the Economics content to the students. One thing is for the ICT facilities to be available; another thing is its functionality,

and then the teachers' efficiency in using it to enhance the teaching and learning of Economics which the researcher want to find out.

Statement of the Problem

The mode of instructional delivery in most senior secondary schools in Nigeria especially public schools has remained traditional or conventional in spite of the intensive ICT awareness by Federal Government of Nigeria to make sure that all the secondary schools in Nigeria are not lagging behind. Teachers in this zone are still using traditional talk and chalk, textbooks, abacus, wooden rule, blackboard in teaching and learning in this modern age where ICT is now the order of the day. Some ICT facilities have been supplied in all the public secondary schools in Enugu State which Nsukka zone is not left behind. However, despite the availability of the ICT facilities made to be used in the teaching and learning process, most teachers still resist to use of traditional teaching tools. The reason for poor utilization of ICT resources in teaching and learning process could be because some teachers and students are not aware of existence of such instructional tools for teaching and learning process such as white board, computer, storage devices, electronic library, internet facilities, power point device, among others. Some teachers and students may be aware of the existence of ICT tools for teaching and learning mention above but may not apply it in teaching and learning process due to certain constraints. These constraints may include constant power outage, uncooperative attitude of some principals of secondary schools, lack of funds among others. All these no doubt could affect teachers' instructional effectiveness and students' performance in Economics at the senior secondary school level. The gap which this study tries to create is to determine whether teachers' were using these ICT devices in their instruction and how far it have help in achieving the goals of ICT in our senior secondary school in Nsukka education zone and Nigeria at large.

Purpose of the Study

The aim was to determine the availability and use of Information and Communication Technology (ICT) in teaching and learning of Economics in senior secondary schools in Nsukka Education zone, Enugu state. Specifically, the study seeks to;

1. assess ICT facilities available for teaching and learning of Economics in SSS.
2. determine the extent teachers utilize available ICT facilities in teaching Economics in SSS.
3. ascertain the difficulties encountered by teachers in utilizing ICT facilities in teaching Economics.

Research Questions

The following research questions guided the study

1. What are the available ICT facilities for teaching and learning of Economics in SSS?
2. To what extent do teachers utilize available ICT facilities in teaching SSS Economics?
3. What are the difficulties encountered by teachers in utilizing ICT facilities in teaching Economics?

Methods

A descriptive survey design method was used for the study. The study was carried out in Nsukka Education Zone which is a large zone comprising of urban and rural environments. In this zone, because of existence of the University of Nigeria, Nsukka and other higher institutions of learning was seen as an academic zone which gives rise to the establishment of numerous secondary schools with large number of students population. The population of the study comprised all the fifty-nine (59) SSS 2 Economics teachers in the 62 secondary schools

in Nsukka education zone in. The entire fifty-nine (59) SSS 2 Teachers teaching Economics in the 62 secondary schools in Nsukka education zone was used as sample for this study. This was because the population was small and manageable; therefore, there was no sampling. The researcher used checklist on availability and a researcher developed a questionnaire for data collection. The instrument was divided into three sections, cluster 1-3. The 28 item instrument has two rating scale on checklist while 34 item questionnaire has four point rating scale as following: Available, Not Available, Very High Extent, High Extent, Low Extent, Very Low Extent, Strongly Agree, Agree, Disagree and Strongly Disagree. Percentages, mean and standard deviation were used for data analysis. The decision rule, any item with a mean rating of 2.5 and above was regarded as needed while any item with a mean rating less than 2.5 was regarded as not needed. The standard deviation was used to determine the closeness or otherwise of the opinions of the respondents from the group mean. The instrument was subjected to face validation by three experts, one in Measurement and Evaluation and two in Social Science Education, (all from Faculty of Education) in University of Nigeria, Nsukka. Both instruments were tested for reliability on 30 SS2 Economics Teacher in Girls Secondary School, Owere-Ezeorba in Orba, Udenu L.G.A which is not part of the study area and overall reliability was 0.83.

Results

Research Question 1: What are the available ICT facilities for teaching and learning of Economics in senior secondary schools?

Table 1: Percentage of available ICT facilities for teaching and learning of Economics in senior secondary schools.

S/N	Item Statement	Available		Not Available	
		Frequency	Percentage(%)	Frequency	Percentage(%)
1	Computers	54	91.5	5	8.5
2	Projectors	49	83.1	10	16.9
3	Internet services	13	22.0	46	78
4	Scanners	55	93.2	4	6.8
5	Interactive white board	51	86.4	8	13.6
6	photocopying machines	50	84.7	9	15.3
7	Printers	48	81.4	11	18.6
8	Modem	52	88.1	7	11.9
9	Flash	53	89.8	6	10.2
10	Television set	12	20.3	47	79.7
11	Radio	25	42.4	34	57.6
12	Audio tapes	44	74.6	15	25.4
13	Credit cards	10	16.9	49	83.1
14	ATM cards	10	16.9	49	83.1
15	Power point	54	91.5	5	8.5
16	MS word	53	89.8	6	10.2
17	MS Excel	52	88.1	7	11.9
18	GSM	50	84.7	9	15.3
19	Tele conferencing devices	8	13.6	51	86.4

20	e-mail	8	13.6	51	86.4
21	Face book	7	11.9	52	88.1
22	What sap	9	15.3	50	84.7
23	CD-ROM	51	86.4	8	13.6
24	Website	13	22.0	46	78.0
25	Coral draw	54	91.5	5	8.5
26	I pad	7	11.9	52	88.1
27	Digital video disc (DVD)	47	79.7	12	20.3
28	Condenser microphone	10	16.9	49	83.1

keyword: % = Percent

The data presented on Table 1 showed that the available ICT facilities for teaching Economics in the area of study are: Computer(91.5%), projectors(83.1%), scanners (93.2%), interactive white board (86.4%), photocopying machine (84.7%), printers (81.4%), modem (88.1%), flash drive (89.8%), Audio tapes (74.6%), power points (91.5%), MS word (89.8%), MS Excel (88.1%), GSM (84.7%), CD ROM (86.4%), Corel Draw (91.5%), and Digital Video Disc (DVD) (79.7%). Also, the non available ICT facilities for teaching Economics in the area of study are: internet service (78.0%), television (79.7%), radio (57.6%), credit cards (83.1%), email (86.4%), face book (88.1%), what app (84.7%), I pad (88.1%) and condenser microphone (83.1%). This means that computers, projectors, scanners, interactive white board, photocopying machines, printers, modem, flash, audio tapes, power point, MS word, MS Excel, GSM, CD-ROM, coral draw, digital video disc (DVD) were available and condenser microphone, I pad, website, whatsapp, facebook, e-mail, Tele conferencing devices, ATM cards, radio, television set, internet services where not available .

Research Question 2: To what extent do teachers utilize available ICT facilities in teaching senior secondary school Economics?

Table 2: Mean and standard deviation ratings of the extent teachers utilize available ICT facilities in teaching senior secondary school Economics

S/N	Item	\bar{X}	SD	Decision
1	Computers	3.37	0.49	High Extent
2	Projectors	3.25	0.44	High Extent
3	Internet services	2.51	0.59	High Extent
4	Scanners	3.07	0.25	High Extent
5	Interactive white board	2.73	0.52	High Extent
6	photocopying machines	3.12	0.33	High Extent
7	Printers	3.05	0.22	High Extent
8	Modem	3.07	0.25	High Extent
9	Flash	3.10	0.30	High Extent
10	Television set	1.83	0.38	Low Extent
11	Radio	1.88	0.42	Low Extent
12	Audio tapes	3.05	0.22	High Extent
13	Credit cards	1.81	0.39	Low Extent

14	ATM cards	1.88	0.38	Low Extent
15	Power point	2.85	0.58	High Extent
16	MS word	3.07	0.25	High Extent
17	MS Excel	3.15	0.36	High Extent
18	GSM	3.08	0.34	High Extent
19	Tele conferencing devices	1.89	0.30	Low Extent
20	e-mail	1.83	0.38	Low Extent
21	Face book	1.86	0.35	Low Extent
22	What sap	1.86	0.35	Low Extent
23	CD-ROM	3.05	0.22	High Extent
24	Website	1.88	0.33	Low Extent
25	Coral draw	2.32	0.68	Low Extent
26	I pad	1.89	0.30	Low Extent
27	Digital video disc (DVD)	3.05	0.22	High Extent
28	Condenser microphone	1.89	0.30	Low Extent
Cluster Mean		2.55	0.45	High Extent

Keyword: \bar{X} = Mean, SD = Standard Deviation, N = Number of the Respondents

The data presented on Table 2 showed the extent teachers utilized available ICT facilities in teaching senior secondary school Economics with their mean and standard deviation respectively. Computers (3.37) 0.49, Projectors (3.25) 0.44, Internet services (2.51) 0.59, Scanners (3.07) 0.25, Interactive white board (2.73) 0.52, photocopying machines (3.12) 0.33, Printers (3.05) 0.22, Modem (3.07) 0.25, Flash (3.10) 0.30, Audio tapes (3.05) 0.22, Power point (2.85) 0.58, MS word (3.07) 0.25, MS Excel (3.15) 0.36, GSM (3.08) 0.34, CD-ROM (3.05) 0.22, Digital video disc (DVD) (3.05) 0.22. This indicates that computers, projectors, internet services, scanners, interactive white board, photocopying machines, printers, modem, flash, audio tapes, power point, MS word, MS Excel, GSM, CD-ROM, digital video disc (DVD) were utilized to a high extent while Television set (1.83) 0.38, Radio (1.88) 0.42, Credit cards (1.81) 0.39, ATM cards (1.88) 0.38, Tele conferencing devices (1.89) 0.30, e-mail (1.83) 0.38, Face book (1.86) 0.35, What sapp (1.86) 0.35, Website (1.88) 0.33, Coral draw (2.32) 0.68, I pad (1.89) 0.30, Condenser microphone (1.89) 0.30. This indicates that condenser microphone, coral draw, I pad, website, whatsapp, face book, e-mail, Tele conferencing devices, ATM cards, credit cards, radio and television set

were utilized to a low extent. The cluster mean of 2.55 with standard deviations of 0.45 indicated that teachers utilized most of available ICT facilities in teaching Economics in senior secondary school to a high extent.

Research Question 3: What are the difficulties encountered by teachers in utilizing ICT facilities in teaching Economics?

Table 3: Mean and standard deviation ratings of the difficulties encountered by teachers in utilizing ICT facilities in teaching Economics

S/N	Item Statement	\bar{X}	SD	DECISION
29	High cost of purchasing ICT facilities/components.	3.27	0.45	Agree
30	Lack of access to internet services in my school.	3.29	0.47	Agree
31	Some teachers lack ICT skills.	3.34	0.48	Agree
32	Lack of maintenance culture on the part of the management.	3.37	0.49	Agree
33	Inadequate power supply affects utilization of ICT in teaching.	3.32	0.47	Agree
34	Time allocated to Economics lessons not enough to accommodate use of ICT.	3.29	0.46	Agree

Keyword: \bar{X} = Mean, SD = Standard Deviation, N = Number of the Respondents

The data presented on Table 3 showed the difficulties encountered by teachers in utilizing ICT facilities in teaching Economics with their mean and standard deviation. High cost of purchasing ICT facilities/components (3.27) 0.45, Lack of access to internet services in my school (3.29) 0.47, Some teachers lack ICT skills (3.34) 0.48, Lack of maintenance culture on the part of the management (3.37) 0.49, Inadequate power supply affects utilization of ICT in teaching (3.32) 0.47, Time allocated to Economics lessons not enough to accommodate use of ICT (3.29) 0.46. The result showed that teachers' agreed that, difficulties encountered by teachers in utilizing ICT facilities includes High cost of purchasing ICT facilities, Lack of access to internet services in my school, among others.

Discussion

The findings of the study, with respect to research question one, showed that Computers (3.37) 0.49, Projectors (3.25) 0.44, Internet services (2.51) 0.59, Scanners (3.07) 0.25, Interactive white board (2.73) 0.52, photocopying machines (3.12) 0.33, Printers (3.05) 0.22, Modem (3.07) 0.25, among others were available while Television set (1.83) 0.38, Radio (1.88) 0.42, Credit cards (1.81) 0.39, ATM cards (1.88) 0.38, Tele conferencing devices (1.89) 0.30, e-mail (1.83) 0.38, Face book (1.86) 0.35 among others were not available for teaching and learning of Economics in senior secondary schools. This finding agrees with the earlier findings of Muhammad and Yagana, (2018), Amusa and Atinmo, (2019) which showed that some of these ICT facilities such as telephone, websites, electronic library, internet facilities, micro film, computer among others are available but it depends on the extend of the usage. The findings of the study, with respect to research question two, showed that computers, projectors, scanners, interactive white board, photocopying machines, printers, modem, flash, among others were fully utilize in teaching and learning of Economics while condenser microphone, I pad, website, whatsapp, internet services among others showed that teachers do not make use of those items in the teaching process. This finding agreed with the earlier findings of Abah (2019) opined that in assessing the

utilization of technology to drive task performance in education, the issue of access and skills remain primordial condition for the use.

The findings of the study, with respect to research question three, showed that High cost of purchasing ICT facilities/components has mean of (3.27) and standard deviation of 0.45, Lack of access to internet services in my school (3.29) 0.47, Some teachers lack ICT skills (3.34) 0.48, Lack of maintenance culture on the part of the management (3.37) 0.49, Inadequate power supply affects utilization of ICT in teaching (3.32) 0.47, Time allocated to Economics lessons not enough to accommodate use of ICT (3.29) 0.47, affects utilization of ICT in teaching of Economics respectively. This finding agreed with the earlier findings of Anderson and Ainley (2010), one of the basic conditions for utilizing technological tools in delivering curriculum content is access to the required technological tools. Also, Ayim (2018) noted another condition for active utilization of technological product or services in education as competency and expertise of users in utilizing the technological tools and resources.

Conclusion

The study concludes that the available ICT facilities for teaching and learning of Economics in senior secondary schools were computers, projectors, scanners, interactive white board, photocopying machines, printers among others while condenser microphone, I pad, website, whatsapp, face book, among others were not available for teaching and learning of Economics in senior secondary schools. The study concludes that teachers fully utilized available ICT facilities in teaching senior secondary school Economics which includes computers, projectors, scanners, interactive white board among others while condenser microphone, I pad, website, whatsapp, face book, e-mail, among others shows that teachers uses it at low extent in teaching and learning of Economics. Difficulties encountered in the utilization of ICT in teaching were high cost of purchasing ICT facilities/components, lack of access to internet services in my school, lack of maintenance culture on the part of the management and inadequate power supply.

Recommendations

Based on the findings, the following recommendations were made:

1. Government should assist in the supply of some of these few facilities found not available in schools such as condenser microphone, I pad, website, whatsapp, face book among others through Comissionner of Education for teaching and learning of Economics in schools.
2. Government should provide stable power supply, internet services in school, ICT maintenance culture through fundings by the Ministry of Education, to enable the teachers to teach with the facilities. There should be adequate efforts by the government and its relevant agencies to provide framework that will ensure timely and constant in-service training to Economics teachers in order to keep them updated with the required ICT skills for instructional delivery.

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