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CHAPTER**

AVAILABILITY AND UTILIZATION OF INFORMATION AND COMMUNICATION TECHNOLOGY IN THE TEACHING OF ECONOMICS IN SECONDARY SCHOOLS IN NSUKKA L.G.A., ENUGU STATE

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Abstract

This study was carried out on the availability and utilization of information and communication technology in the teaching and learning of Economics in secondary schools. The study has three research purposes from which three research questions were formulated. A descriptive survey design was adopted for the study. The population of the study comprised 2,340 SS2 students and 27 teachers from 32 senior secondary schools in Nsukka L.G.A., Enugu State. From the population a sample size of 150 students and 5 Economics teachers were composed for the study using stratified random sampling technique. Data were collected using a questionnaire constructed by the researchers; Availability and Utilization of Information and Communication Technology for the Teaching and Learning of Economics Questionnaire (AUICTTEQ). The reliability coefficient of 0.79 was established using Cronbach Alpha. Data collected were analyzed using mean scores and standard deviation. The findings revealed among other things that there was inadequate provision and utilization of ICT facilities or devices in secondary schools for the teaching and learning of Economics. It was based on the findings that such recommendations as; donation of ICT facilities or devices in secondary schools by the government and well-spirited individuals, training of teachers and students on how to use ICT for teaching and learning, increasing of funding to schools by government and improvement of electricity supply by electricity distribution companies were made.

Introduction

Economics is one of the subjects that is taught at the senior secondary school level in Nigeria. It is not compulsory for students at this level of education. That is why it is among the group of elective subjects. Economics is a subject that helps man to make rational decisions in the face of scarce or limited resources. Hall (2013) defined Economics as the study of how individuals, firms and the whole society identify their most important needs, allocate and manage scarce resources in such a way that satisfies as many needs as possible. In the light of this, it is obvious that the study of Economics is very important in the society due to the fact that man is insatiable in nature and therefore, has numerous wants which are supposed to be satisfied with the limited resources nature has provided. The teaching of Economics is important in many ways. First, it helps students and society to put their needs in order of preference and then make a choice. According to Amaechi in Ogele (2013), a sound knowledge of the subject prepares students for a wide variety of careers in the areas of banking and finance, management, business administration, marketing,

insurance, accountancy, estate management, among others. Koutsoyiannis (1979), stated that the teaching of Economics equips the students with a 'kit' of modern tools of Economic analysis which helps them to understand and analyze the complexities of the real business world. The usefulness of the subject to students has underscored why it is studied in Nigerian secondary schools.

One of the objectives of studying Economics is to equip the students with the basic principles that is necessary for useful living and higher education (FME, 2008). The study of the subject enables students to live within their means and also prepares them for higher education. With the knowledge of Economics, students can acquire some entrepreneurial skills that will help them contribute to the national development of the Nigerian nation.

To ensure there is a proper and effective teaching of Economics and other subjects at the secondary school level, the Federal Republic of Nigeria in the National Policy on Education (FRN, 2014) has recommended the teacher-pupils ratio of 1:40. What this means is that a teacher at the senior secondary school is not supposed to teach more than 40 pupils or students in a class. This recommendation may not be unconnected to the lack or inadequate classroom blocks in our schools. To support this, Emeh, Abang, Asuquo, Agba and Ogaboh (2011), in their study found among other things that inadequate classroom blocks impede the implementation of curriculum in Nigeria. Also, Azubike and Ezeoba (2017), decried the dilapidated nature and lack of enough classrooms for teaching and learning in the schools. The authors further reported that the lack or inadequate nature of classrooms in schools has resulted to over-crowded classrooms, poor classroom management and students scoring low marks due to low or lack of attention from the teacher. Azubike and Ezeoba, also observed that over-crowded classroom can lead to frustration and stress on the part of the teacher. However, with the introduction of ICT in teaching and learning, teachers can now begin to heave a sigh of relief. Both teachers and students can interact in the comfort of their homes with the help of ICT.

Information and Communication Technology (ICT) has brought a paradigm shift in the teaching and learning all over the world. According to Aniakwu and Lateef (2021), ICT is digital or electronic resources used to acquire, process, store, preserve and disseminate information. The authors further stated that ICT involves the use of computer and communication facilities in collecting, collating, processing, storing, retrieving and disseminating information. ICT is referred to as the varied collection of technological gear and resources, which are used to communicate. They are also made use of to generate, distribute, collect and administer information (Sukants, 2012). Information and Communication Technology according to Idris and Mato (2021), consists of hardware, software, networks, and media for collection, storage, processing, transmission and presentation of information (voice, data, texts, images) as well as related services. ICT can be divided into two components, information and communication infrastructure (ICI), which refers to the physical telecommunications systems and networks (cellular, broadcast, cable, satellite, postal) and the services that utilize those (internet, voice mail, radio and television) and Information Technology (IT) that refers to the hardware and software of information collection, storage, processing and presentation (Sukants, 2010). Today the

importance of ICT in the daily life of man cannot be overlooked especially now that globalization has made the entire world a global village, there should therefore, be the free flow of information from person to person and nation to nation and so on.

In the field of education, ICT plays an important role. For example, Ofodu (2007), agreed that ICT as an electronic device, assisted by human and interactive materials could be used for a wide range of teaching and learning. To buttress this, Shavinna in Zubairu (2012), asserted that ICT could be used to acquire skill development in the language arts, history, physics, literature, biology and so on. In the teaching and learning of Economics, ICT devices can be used to teach and learn almost the concepts in the subject through animation using projector, computers, or even watching the video online to improve students' knowledge.

For teaching and learning to take place in schools today, there are different forms of ICT devices that can be employed. Such devices include; computers, audio-visual materials, laptops, note book computers, teleconferencing, digital calculator, power point, CD-ROM technology, electronic notice board, scanner, library software and so on (Ngwuchukwu, 2009). Teaching Economics using these devices may motivate learners to learn, arouse interest to learn, promote knowledge acquisition, information processing and dissemination which will help in achieving the objectives of studying Economics.

Today, ICT is needed in every facet of human life. For example, ICT is needed in the health sector, power sector, religious cycle, economic sector, building construction, financial organization, even in the preparation of some kinds of food that we eat. ICT is used in the political space to conduct elections; it is used in sports, music, arts and culture. ICT is needed for easy, better and accurate running of governments locally and internationally. In fact, in these contemporary days doing anything without ICT can be likened to a man who is trying to run away from his shadow. This, no doubt may have accounted for the introduction of computer education at all levels of the Nigerian education by the Federal Ministry of Education (FME 2014). The key point for introducing this type of education is to make learners computer literate and to acquire some entrepreneurial skills that will enable them function effectively in this 21st century world of works and contribute to national development. It is in confirmation of the importance of ICT that has made the government at all levels, individuals, corporate organizations and non-governmental organizations to donate some ICT devices to all educational institutions in Nigeria for instructional purposes. It is now necessary to investigate the extent of availability and utilization of some of these ICT devices in the teaching and learning of Economics in secondary schools.

Availability means how easily accessible a thing is at the particular time it is needed. According to Techopedia (2016), availability refers to the ability of one to access a thing, information or resources in a specified location and in the correct format. Availability also means being physically present (Omeje, 2010). So, information and communication technology (ICT) devices can be said to be available when they are physically present. That is when these devices can be seen to be physically present in schools at the time they are needed. Over 90% of schools in Nigeria are without ICT tools

including internet (Salau, 2003). To support this, Ossai, Eze, Chineke and Uwakwe (2020) reported that there is inadequate supply of ICT devices for teaching and learning in secondary schools. The implication of this is that most learners in the Nigerian schools are denied of the opportunity of acquiring ICT skills due to unavailability or lack of ICT devices. Obviously, the extent to which ICT devices are utilized in secondary school is dependent on their availability.

Utilization refers to the ability to use something for the purpose they are meant. Bassey and Amie-Ogan (2019), describe resource utilization as the process whereby instructional materials are systematically managed and organized towards meeting the end goal. The utilization of ICT resources/ devices is the ability of the teacher to systematically organize and manage these devices in such a way that they can be used to achieve the purpose of learning. Adebayo (2007) observed that utilization also looks at the frequency to which these materials and services are used and the concomitant utility derived from the resources. Utilization of ICT for the teaching and learning of Economics in secondary school therefore means how adequate ICT is used to achieve the goals of this subject. A study conducted by Aniaku and Lateef (2021), on the availability and utilization of ICT in secondary school biology teaching: implication for national security revealed that ICT utilization is at a low extent. It is in the light of this that the researchers looked at the availability and utilization of ICT in the teaching of Economics in senior secondary schools in Nsukka Local Government Area, Enugu State.

Economics is a subject that deals with the management of human resources to ensure the satisfaction of the various wants of man. Due to this fact, Economics is now central in the study of such courses like; banking and finance, management, marketing, business administration, accountancy, purchasing and supply, insurance, estate management and so on. Since information is power there is therefore, the need to determine the availability and utilization of information and communication technology (ICT) in the teaching and learning of economics. ICT devices are electronic gadgets that help to; accept, process, store and disseminate information faster than any other means of communication. There are many ICT devices that can be used by teachers to teach at the secondary school level to promote learning among learners. Unfortunately, despite the importance of ICT in information dissemination, its availability and utilization for teaching and learning in secondary school is not guaranteed. The problem of the study is therefore stated thus; what information and communication technology are available and utilized for the teaching of Economics in secondary schools in Nsukka L.G.A. of Enugu State?

The study sought to determine:

1. the available ICT devices for the teaching of Economics in secondary schools.
2. the extent of utilization of ICT facilities for the teaching of Economics in secondary schools.

3. the factors that affect the utilization of ICT in the teaching of Economics in secondary schools.

The following research questions guided the study:

1. What are the available ICT devices/ facilities for the teaching of Economics in secondary schools?
2. To what extent are the ICT facilities/ devices utilized for the teaching of Economics in secondary schools?
3. What the factors that affect the availability and utilization of ICT for the teaching of Economics in secondary schools?

Method

The study adopted descriptive survey research design. The descriptive survey aims at collecting data on and describing them in a systematic manner about a given population (Nworgu, 2016). The study was carried out in Nsukka Local Government Area of Enugu State, South East, Nigeria. The population comprised 2,340 students and 27 Economics teachers from 32 secondary schools. From this population, a sample size of 150 SS2 students and 5 Economics teachers was composed from 5 secondary schools using stratified random sampling technique. Data were collected using a questionnaire named; Availability and Utilization of Information and Communication Technology in Teaching and Learning of Economics (AUITTEQ) and was face validated by three experts, two from Measurement and Evaluation unit of Science Education Department and one from Social Science Department, Faculty of Education, University of Nigeria, Nsukka. The reliability co-efficient of 0.79 was established using Cronbach Alpha. Also, the data collected were analyzed using frequency distribution table, percentages, mean and standard deviation. The criterion mean was 2.50. This means that any item that scores 2.50 and above was accepted while items that score less than 2.50 were rejected.

Results

Table 1: Percentage of responses on the availability of information and communication technology for the teaching and learning of Economics

S/N	ICT Facilities	Available Frequencies	Percentage of Avail. Freq.	Not Ava. Freq.	Percentage of Not Avail. Freq.
1	ICT Facilities	150	100	0	0
2	Laptop	140	93.3	10	6.7
3	Scanners	0	0	150	100
4	Projectors	135	86.0	15	14
5	Mobile Phones	150	100	0	0
6	Internet telephony	0	0	150	100
7	Internets	50	33.3	100	66.7
8	E-mail	100	66.7	50	33.3
9	WhatsApp	145	96.7	5	3.3
10	Television	0	0	150	100
11	CD-ROMs	0	0	150	100
12	Wide Area Network(WAN)	0	0	150	100
13	Voice mail	0	0	150	100
14	Facebook	139	92.7	11	7.3
15	Youtube video	0	0	150	100
16	Radio	0	0	150	100
17	Digital Cameras	0	0	150	100
18	Online information sources	140	93.3	10	6.7

The results presented in table 1 shows that the information and communication technology devices available for the teaching and learning of Economics are: 1,2,4,5,7,8,9,14 and 18 with 100%, 93.3%, 86.0%, 100%, 33.3%, 66.7%, 96.7%, 92.7% and 93.3% for availability frequencies respectively. It also showed that items: 3,6,10,11,12,13,15,16 and 17 with 0% frequency showed that they are not available.

Table 2: Mean and Standard deviation of the responses on the utilization on information and communication technology in the teaching and learning of Economics

S/N	ICT Facilities	Economics Teachers			SS2 Economic Students		
		Mean	St. Dev.	Decision	Mean	St. Dev.	Decision
1	CD-ROM	2.10	1.02	Rejected	2.20	1.01	Rejected
2	Fax machine	1.74	1.14	Rejected	1.80	1.19	Rejected
3	Laptops	2.31	1.17	Rejected	2.35	0.91	Rejected
4	Scanners	1.93	0.82	Rejected	1.83	1.12	Rejected
5	Computers	2.31	1.08	Rejected	2.27	0.94	Rejected
6	Projectors	2.25	0.92	Rejected	1.96	1.11	Rejected
7	Mobile phones	2.84	1.52	Rejected	3.01	1.58	Accepted
8	Photocopying machines	1.92	0.92	Rejected	1.84	1.14	Rejected
9	E-mail	2.12	1.14	Rejected	1.91	1.10	Rejected
10	WhatsApp	2.12	1.81	Rejected	2.70	1.00	Accepted
11	Television	1.80	0.73	Rejected	2.17	1.02	Rejected
12	Wide Area Network (WAN)	2.21	1.73	Rejected	2.05	1.11	Rejected
13	Radio	2.12	1.18	Rejected	1.90	0.92	Rejected
14	Facebook	2.12	1.18	Rejected	2.60	1.00	Accepted
15	Youtube video	2.19	1.02	Rejected	1.88	0.99	Rejected
16	Voice mail	2.17	1.18	Rejected	2.00	1.08	Rejected
17	Digital Cameras	1.81	0.81	Rejected	2.00	1.13	Rejected
18	Online information Sources	2.41	0.90	Rejected	2.12	1.08	Rejected
19	Internet	2.75	1.36	Accepted	2.80	1.43	Accepted

Table 2: shows the mean and standard deviation of respondents on the extent of utilization of information and communication technology (ICT) in the teaching of Economics in secondary schools in Nsukka L.G.A. of Enugu State. From table 2: it is revealed that the internet devices that are mostly used by Economics teachers to teach the subject are mobile phones and internets with mean scores of: 2.84 and 2.75 respectively. Students' utilization of mobile phones, WhatsApp, Facebook and internets has the mean scores of: 3.01, 2.70, 2.60 and 2.80 respectively. Table 2: also shows that the information and communication technology devices that are not often utilized by both the teachers and students for teaching and learning of Economics are: fax machine, digital cameras and

photocopying machine among others and they have the following mean scores for teachers and students: 1.74 and 1.80, 1.81 and 2.00, 1.92 and 1.84 respectively.

Table 3: Mean and Standard deviation of responses on the factors that affect the availability and utilization of information and communication technology (ICT) for the teaching of Economics in secondary schools.

S/N	Economics Students	Economics Teachers			Teachers		
		Mean	St. Dev.	Decision	Mean	St. Dev.	Decision
	Factors affecting the availability of ICT						
1	Teachers and students lack of interest in the use of ICT devices in teaching and learning of Economics	3.60	0.71	Accepted	3.50	0.62	Accepted
2	Lack of provision of ICT facilities in schools by the government and other stakeholders in education sector	3.47	0.72	Accepted	3.44	0.69	Accepted
3	Teachers and students' lack of training on how to use ICT teach and learn	3.17	0.60	Accepted	3.20	0.57	Accepted
4	Lack of adequate funding of education sector by the government	3.36	0.66	Accepted	3.40	0.68	Accepted
5	Irregular or epileptic power supply by electricity distribution companies	3.19	0.70	Accepted	3.29	0.71	Accepted
6	Lack of government policy on the use of ICT for the teaching and learning in secondary schools	3.31	0.64	Accepted	3.37	0.66	Accepted

Table 3: shows the mean scores and standard deviations of responses from both the teachers and students on the factors that affect the availability and utilization of information and communication technology (ICT). The mean scores of teachers' and students' lack of interest in the use of ICT devices for teaching and learning of Economics ranked 1st with 3.60 and 3.50 respectively. This was followed by lack of governments' and stake holders' provision of ICT facilities in schools which ranked 2nd with the mean scores of: 3.47 and 3.44 for teachers and students respectively. Lack of adequate funding of education sector by the government ranked 3rd with the mean scores of: 3.36 and 3.40 for teachers and students respectively. Lack of government policy on the use of ICT for teaching and learning in secondary schools has the mean scores of: 3.31 and 3.37 for teachers and students respectively and it ranked 4th. Irregular or epileptic power supply by electricity distribution companies ranked 5th with mean scores of: 3.19 and 3.29 for teachers and

students respectively. Finally, the mean response scores of teachers and students on teachers' and students' lack of training on how to use ICT for teaching and learning were: 3.17 and 3.20.

Discussion

The findings of this study show that many information and communication technology (ICT) devices were not available in secondary schools. This implies that secondary schools were not adequately provided with ICT devices to aid teaching and learning between teachers and students. The finding agreed with Salau (2003) who stated that over 90% of schools in Nigeria were without ICT tools. The finding also, agreed with Ossai, Eze, Chineke and Uwakwe (2020), who found that there were inadequate supply of ICT devices for teaching and learning in secondary schools.

Also the findings of this study revealed that the utilization of some of the ICT devices that were available in secondary schools was low. The implication of this is that the teachers and students may not have been trained on how to use these devices and therefore, cannot use them for teaching and learning. This finding is supported by the findings of Aniakwu and Lateef (2021) who found out that the extent of utilization of ICT devices that were available for the teaching and learning of biology in secondary schools in Eti-Osa LGA of Lagos State was low.

Finally, the findings revealed that the availability and utilization of ICT devices in secondary schools were affected by factors such as; teachers' and students' lack of interest in the use of ICT devices in teaching and learning, lack of provision of ICT facilities/devices in secondary schools by government and other major stake holders, teachers' and students' lack of training on how to use ICT for teaching and learning, lack of adequate funding of the education sector by the government. Other ones were: irregular or epileptic power supply by electricity distribution companies and lack of government policy on the use of ICT for teaching and learning in secondary schools. The implication of this finding is that the availability and utilization of ICT devices in secondary schools may not be possible unless these factors listed above are taken care of.

Conclusion

From the findings of the study, the researchers concluded that although there was inadequate supply of the ICT devices in secondary schools for the teaching and learning of Economics, teachers and students could not utilize the available ones due to lack of training on how to use them. It was further concluded by the researchers that the following factors affected the availability and utilization of ICT for the teaching and learning of Economics in secondary schools in Nsukka L. G. A. of Enugu State. They include; teachers' and students' lack of interest in the use of ICT in teaching and learning, lack of provision of ICT facilities/devices in schools by the government and other stake holders in education sector, teachers' and students' lack of training on the use of ICT to teach and learn, lack of adequate funding of education sector by the government, irregular or epileptic power

supply by the electricity distribution companies in Nigeria and lack of government policy on the use of ICT for teaching and learning in secondary schools.

Recommendations

In the light of the factors that affect the availability and utilization of Information and Communication Technology (ICT) as revealed by this study, some recommendations have been made. They include:

1. Government and well-spirited individuals should donate ICT facilities or devices to secondary schools.
2. Teachers and students should be trained on how to utilize ICT facilities or devices for teaching and learning activities.
3. Government should increase its funding of the education sector.
4. The supply of power by the electricity distribution companies of Nigeria should be improved.

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