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AVAILALITY OF DIGITAL TOOLS FOR TEACHING AND LEARNING IN SECONDARY SCHOOLS IN AWKA EDUCATION ZONE OF ANAMBRA STATE

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ABSTRACT

The intention of this study was to determine the digital tools available for teaching and learning in secondary schools in Awka education zone of Anambra state. The study adopted a descriptive survey research design in which a research question was formulated. The population of the study consisted of 61 public secondary schools. A sample of 34 schools was drawn through a purposive sampling technique. Data was collected using researcher-developed checklist titled: "Digital Tools Available for Teaching Students" (DTATS).Three experts (two from Philosophy of Education unit in Educational Foundations and one from Measurement and Evaluation unit in Science Education department) face-validated the questionnaire. The validators are from the Faculty of Education University of Nigeria, Nsukka. The reliability of the instrument was as well calculated. A reliability coefficient index of 0.66 was calculated using Cronbach Alpha statistics. The question was answered using percentage. The result revealed that major digital tools for teaching and learning in secondary schools in Awka Education Zone are not available. Consequently, the study recommends among other things that government should provide necessary digital tools for teaching and learning in secondary schools in Awka education zone.

Introduction

Digital tools, commonly known as Information and Communication Technology (ICT) is a trend in the twenty-first century; with sundry benefits attached to them. Digital tool is projected by education. As Uwaifo (2009) puts it, education unlocks the door of modernization with the aid of digital tools. Digital tools, according to Blurton (2000) can be seen as a diverse set of technological tools which are resources used to communicate, create, disseminate, store and manage information. Okwor, as reported by Enemuo and Onwuka (2006) contend that digital tools involve an application of the computer and telecommunications systems for purposes of accessing, collating, processing [treating and manipulating], analyzing, storing, retrieving and transmitting of data in diverse forms. Hence, digital tool is seen as the driver of almost all sectors in the world and Nigeria in particular, especially in their education sector. The importance and its infiltration in the sector is so much that almost nothing can be done without it and more so, anyone who is not computer literate is seen as not educated at all. According to Eke and Nkweke (2010), digital tools are whole range of technologies involved in information processing and enabled by power. It describes technologies which receive record, process, transmit and retrieve information. It is as well the handling and

processing of the Information by means of electronic and communication devices, such as computers, digital cameras, telephones, televisions, audio recorder; projector, presenter; graphic board, multimedia, et cetera. Eke and Nkweke (2010) conclude that these digital tools are sacrosanct as far as global education trend and meaningful competitiveness is concerned.

Consequently, digital tools involve collection, processing, storage, dissemination, retrieval and use of information for decision making, planning, operating, controlling, public enlightenment, entertainment, and in teaching and learning situation. It is also a strong means of globalization for improvement in science, art and culture. Accordingly, Nzewi (2009) asserts that digital tools can be seen as a scientific method of sharing, exchanging and sending or moving such information from one place to another. Digital tools in recent years have been linked with the socio-economic development of nations with the assumption that they can be harnessed for economic growth in developed and developing countries. In the same wake of thought, Castellano (2011) asserts that digital tools facilitate integration into the global and local information society and ensures a rapid technological advancement. No wonder Digital tools have become a veritable tool in the hands of developed and developing nations to fast track their socio-economic growth and development. The reason for this is not far-fetched; it is to facilitate a rapid global and national development in the twenty-second century.

This rapid growth, especially in developing countries like Nigeria, has led digital tools to become a keystone of everyday life, and a tool that has brought about technological advancement. So much that without it, some routine tasks like sending and receiving of calls, messages, mails and other online businesses could be rendered dysfunctional. Confirming the above, Kadiri (2012) states that Digital tools play an increasingly remarkable role in the way secondary school students communicate, learn and live. This could inform the reason it has become a veritable tool in the hands of developing nations to enhance human capacity development and socio-economic growth through education.

However, there seems to be lack of most of these digital tools for teaching and learning in secondary schools in Awka education zone of Anambra State, Nigeria. This is a situation whereby there are few or no such tools as projectors to project slides or lessons prepared by teachers, presenters to toggle or manage what is been projected on the slide to enable students to have an unhindered view of it. With this, stimulus variation is guaranteed. Other digital tools like graphic boards, audio recorders, laptops and the like that enable a comprehensive teaching and learning in secondary schools in this twenty-first century seem to be lacking.

Secondary schools are found in secondary education. Hence, secondary education can be described as an institution that provides education for secondary school students. It is among the various levels of education in Nigeria. Federal Republic of Nigeria (2014) sees secondary education as the education which students receive after primary school education and before tertiary

education. Secondary education provides both junior secondary education (upper basic education) that begins between 10 to 15 years and senior secondary education that begins between 15 to 18 years. The both levels in the secondary education have three years duration each. The main objective of secondary education in Nigeria is not only to prepare individuals for a worthwhile living in the society but also to equip them for higher education. In the same line of thought, International Standard Classification of Education ISCED (1997) states that secondary education prepares individuals for vocational education.

Secondary education follows on from primary education. For Cicero (103-43BC), it is the formative stage of individuals. Attendance of secondary education is compulsory for junior level in Nigeria. Secondary education in Nigeria can be owned by the government, religious bodies; private individuals, and communities or in partnership with government. They can be found in many communities in Nigeria and are grouped under education zone. Today in Nigeria, there is no specific year of entrance and graduation from secondary education; but Eubanks and Eubanks (2000) posits that the age of entrance is between10-11 years, while the expected year of graduation is between 17-19 years. In secondary education, teaching and learning is paramount.

Teaching and learning can be seen as activities that take place, not only in formal setting but also in informal setting. It is an integral part of secondary school education. According to Dewey (1915), teaching and learning are essential for continuation of the human community and society. Dewey's idea seems to align with the thought of Howard and Samuel (2008) who posit that teaching and learning is the process of continuity, of transmitting the things that make social life possible, is not a biological or genetic process but a social and communal one. For Howard and Samuel, a community exists because of what they have in common: moral value, belief, language and other things. Because these things are not transmitted biologically, they can be passed on to the younger generation of learners only through social milieu and educational process.

The learner is one who is capable of learning or who have the capability to learn in order to know. Abiogu (2013) ststes that learners should have the eagerness, the aptitude, the curiosity, the motivation; the inquisitiveness and the desideratum to learn in order to become knowledgeable. For Candace and Sharon (2004), the learner is one who has beliefs, attitudes about learning and the variety of skills and knowledge on which to build. The learner according to the authors is one who may have the knowledge of the topic being studied and will receive assistance from the teacher who provides the activities that build background knowledge and helps the learner to link this new knowledge to the previous one. In other words, the learner can be described as one who should be helped after making series of futile effort to learn a thing in the process of learning.

Learning is an activity or a process that spins around education. It is an element of education. Candace and Sharon (2004), view learning as changes in behaviour that

results in students demonstrating new knowledge and skills. Candace and Sharon further argue that learning can be perceived as dynamic process in which the students play active role, constantly interacting with the environment and people around them. On the other hand, Ebenebe, Unachukwu and Nwosu (2017) believe that learning in the behavioural tradition is defined as a relatively permanent change in an individual's behaviour as a result of experience. But for Ngwoke (2010), learning may be defined as a process which causes a change in behaviour of an individual. Concurring with the above, Myers (2003) views learning as a relatively permanent change in an organism's behaviour due to experience. However, Mukherjee (2002) gave the meaning of learning as an inference from some performance of the organism resulting in an enduring change of behaviour. On the contrary, Owan-Eno (2021) believe that learning in this misconceived sense takes the view of the wholesale absorption of narrated pieces of information and laws and of filling the brain and furnishing the mind of the student or the learner. For Owan-Eno (2021), such process does not see learning as undergoing any process of transforming what is given. The author believes that proper learning is when knowledge is assimilated than stored. It therefore implies that learning is not just seen as any relatively permanent change in behaviour that occurs as a result of practice and experience in a given societal environment, but understanding that comes after a learner's mind has overcome ignorance, doubt, confusion, difficulty or inability and become liberated by the help of a democratic teacher as Paulo Freire (1972) pointed out.

The teacher is very important to the learner. They are the ones who implement and transfer the knowledge to the learner. The teacher injects curiosity in the learner and motivates them to learn. Candace and Sharon (2004) assert that the teacher is the person who brings to the learning situation teaching, knowledge and skills; beliefs and attitudes about teaching, learning, and the world; and strategies for teaching. In the view of Quintilian (1920), the teacher must be one who is civilized, culturally groomed and morally impeccable. Reason for this assertion by Quintilian is so that students who see these teachers as their model will not act otherwise. It therefore follows that the teacher plays the role of educational technician who engineers instruction and arranges the environment so that the probability of learning is increased. This is accomplished by providing the student with effective instruction and the rewards for learning. The teacher as well conveys knowledge and skills in a systematic, explicit manner via teaching. On the other hand, the teacher as perceived by Freire (1998) must be democratic and unbiased for effective teaching to take place.

Teaching is a conscious and deliberate effort by a matured or experienced person to impart information, knowledge, skills, moral value and so on, on an immature or inexperienced person with the intention that the later will learn more or believe what to be taught on good grounds (Urevbu, 2011). Questioning the above proposition, Owan-Eno (2021) submitted that if teaching involves the coming together of two active

minds, as opposed to an active one and a passive or lifeless one, then a certain human relationship is necessary for both the teacher and learner to function at the level of humanity. For Owan-Eno (2021), teaching is an activity which is facilitated under conditions of good personal relationships between teachers and learners. This implies that teaching is a form of interpersonal association aimed at changing the potential behaviour of another person. Concurring, Ughamadu (2010) argued that teaching is a process that is obvious, but much depends on the teachers' ability to evolve a systematic means of identifying possible problems and its solution. Ughamadu further states that teaching is affected by the social relationship between students and the teacher. Teaching is also an occupation like any other occupation we are familiar with. Therefore, teaching is an art by a person, usually a teacher to impact or transfer knowledge, moral value to other persons - students who are less enlightened; and are aware that they are less enlightened and are willing and ready to learn.

In sum, teaching and learning are activities that take place in formal and informal education, especially in secondary school education. The basic thing done in this process is nothing but to impart knowledge, skills, values and mores with the aid of digital tools.

The Digital Tools for Teaching and Learning in Secondary Schools

The kind of digital tools that can be used in teaching include, computer, projector, presenter; audio recorder, graphic board and the likes, (Collins, 2008).

I. Computer: this is a programmable electronic device that performs mathematical calculations and logical operations, especially one that can process, store and retrieve large amounts of data very quickly. It can also be seen as a device, no matter how small for personal or home use employed for manipulating text or graphics, accessing the internet, or playing games or media.

II. Projector: can be seen as an optical device that projects a beam of light, especially one used to project an image (or moving images) or texts prepared in a computer slide onto a screen.

III. Presenter: is a small handheld device used to remotely control a computerized slide show to enable viewers see what is been shown on the screen without any form of obstruction. This is very important in teaching-learning situation because it enables stimulus variation which is vital in teaching and learning.

IV. Audio Recorder: An audio tape recorder, also known as a tape deck, tape player or tape machine or simply a tape recorder, is a sound recording and reproduction device that records and plays back sounds usually using magnetic tape for storage. In its present-day form, it records a fluctuating signal by moving the tape across a tape head that

polarizes the magnetic domains in the tape in proportion to the audio signal. Tape-recording devices include the reel-to-reel tape deck and the cassette deck, which uses a cassette for storage. This device can be used in classrooms to record day to day instruction for the benefit of students, especially those that are visually impaired.

V. Graphic Board: A graphics board or digital art board is a computer input device that enables a user to hand-draw images, animations and graphics, with a special pen-like stylus, similar to the way a person draws images with a pencil and paper. These tablets may also be used to capture data or handwritten signatures. It can also be used to trace an image from a piece of paper that is taped or otherwise secured to the tablet surface. This device is apt in teaching learning situation, especially in this digital age.

Digital tools facilitate teaching-learning as well as enhance integration into the global information community and ensures a rapid technological advancement in nations of the world. Digital tools, even though enhance teaching-learning seem not to be available to be used for teaching in secondary schools in Awka education zone. The researcher therefore seeks to find out the available digital tools for teaching and learning in secondary schools in Awka education zone of Anambra state.

Specifically, the study sought to determine:

The available digital tools used for teaching and learning in secondary schools in Awka education zone.

One research question guided the study:

1. What are the digital tools available for teaching and learning in secondary schools in Awka education zone?

Method

This study used a descriptive survey method. The term descriptive survey method implies gathering data that describe events and then organizes, tabulates, depicts and describe the data collected. The area of the study is Awka education zone of Anambra State. Awka education zone is one of the six educational zones in Anambra State, setup for the effective and efficient supervision, management and co-ordination of Post Primary (Secondary) schools - Public and Mission schools (with government partnership).

The population of this study consists of 61 public secondary schools in five local government areas of Awka education zone. (Source: Post Primary [Secondary] School Service Commission (PPSSC), Awka, Anambra State, 2019). A sample of 34 secondary schools from two local governments (Awka South and Anaocha) were used. The sample was drawn from the population using purposive sampling technique. The instrument for the study was observation checklist which was developed by the researcher and validated by three

experts. Two lecturers from Philosophy of Education unit, Department of Educational Foundations and a lecturer from Measurement and Evaluation unit, Department of Science Education, all from Faculty o education, University of Nigeria, Nsukka. This was done by presenting the purpose of the study, research question and the copies of the questionnaire to the three experts. The reliability of the instrument was carried out by the researcher using Crombach statistics. The alpha coefficients got was 0.66. the observation checklist was personally administered. The collected data was analyzed using percentage. The decision rule was that frequency of the response with above 50% frequency was available, while those with below 50% were not available.

Result

The table shows observation of checklist response on the available Digital Tools for teaching and Learning in secondary schools in Awka Education Zone

S/N	Item Statement	Available	%	Not Available	%
1	Computer	**34**	**100**	**-**	**-**
2	Projector	**13**	**38.2**	**21**	**61.8**
3	Telephones	**25**	**73.5**	**9**	**26.5**
4	Tape recorder	**6**	**17.6**	**28**	**82.4**
5	Photocopier	**23**	**67.6**	**11**	**32.4**
6	Graphic boards	**4**	**11.8**	**30**	**88.2**
7	Digital Camera	**2**	**5.9**	**32**	**94.1**
8	Presenter	**1**	**2.9**	**33**	**97.1**
9	Laptops	**3**	**8.8**	**31**	**91.2**
10	Scanner	**10**	**29.4**	**24**	**70.6**

Result presented in the above Table shows that the digital tools which are available to the students in Awka Education Zone of Anambra state. From the above table, it shows that computer, telephone and photocopier as seen in items 1, 3 and 5 with the percentage scores of 100%, 73.5% and 67.6% respectively are available to students. Deduction from the above indicates that all the 34 schools have computer, 25 out of 34 schools have telephone while 23 out of 34 schools have photocopier meaning that the above digital tools can be found in the secondary schools in Awka Education Zone. However, digital tools like Projector, Tape recorder; Graphic board, Digital camera; Presenter, Laptops and Scanner in items 2, 4, 6, 7, 8, 9, and 10 respectively are not available for teaching and learning in secondary schools in Awka Education Zone. The number of schools that do not have the above digital tools are 21, 28, 30; 32, 33, 31 and 24 respectively, representing the following percentage 61.8%, 82.4%, 88.2%; 94.1%, 97.1%, 91.2% and 70.6% respectively. This implies that such remarkable digital tools that enhance teaching and learning and drive digital world as far as education is concerned are not available for use by secondary school

students in Awka Education Zone in this digital age.

Summary of Findings

Based on the research question that guided the study, this finding was made. The results revealed that:

1. Major digital tools that are used for teaching and learning and as well enhance digital education in this digital era are lacking in secondary schools in Awka education zone of Anambra state

Discussion of Result

Digital Tools Available for Teaching and Learning in Secondary Schools in Awka Education Zone

The research question was concerned with the available digital tools for teaching and learning of secondary school students. The findings with respect to the research question showed that primary digital tools like laptops, digital camera, graphic board, tape recorder and the like needed for teaching and learning and academic excellence in this digital era are lacking. The meaning of this is that the digital tools that improve learning and enable digital education in this 21st Century are still far from the reach of secondary schools in Awka education zone.

The above assertion is worrisome in the sense that the needed digital tools that drive digital education not only in Awka education zone but in Nigeria at large are scarcely available. These tools are considered to be sacrosanct for any education system striving to meet up with the global education trend. Eke and Nkweke (2010) aver that digital tools that made up a whole range of technologies involved in information processing which receive, record, process, transmit and retrieve information are sacrosanct as far as global education trend and meaningful competitiveness are concerned.

Furthermore, the quest for an improved teaching-learning condition and a comprehensive microteaching will be gloomy since from the findings, phenomenal digital tools like projector, digital camera and the like are lacking in secondary schools in Awka education zone. Hence, globalization will be to this education zone as a man trying hard to punch the air. In line with the above, Nzewi (2009) states that digital tools which are seen as a strong means of globalization, improvement in science, art and culture and scientific method of sharing, exchanging and sending or moving information from one place to another for easy comprehension cannot be wished away.

Recommendations

Based on the findings of this study, the researcher put forward the following recommendations:

- ❖ All necessary digital tools needed for teaching in secondary schools should as a matter of urgency be provided by government.
- ❖ Government should update all the outdated digital tools in the secondary schools.
- ❖ Government should also procure novel digital tools that enable hitch

free teaching and learning in this twenty first century.

Conclusion

The researcher is convinced that in order for our secondary school students who are seen as the future leaders to be able to compete favourably in this twenty-first century with their counterpart in the world, there is a need to procure and provide novel digital tools for teaching and learning in secondary schools.

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