The Efficacy Of Computer Literacy In Enhancing The Literacy Level In Primary Education In Kogi Central

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Abstract

The need for computer literacy skills becomes mandatory in view of the changing nature of technological and educational development. This research focuses on developing computer skills from the primary level of education. It does this by adopting the experimental research method and to primary six pupils (20 each) from five randomly selected primary school in Kogi central senatorial district. The experiment spans 8 weeks. There noticeable significant changes in the post-test result when compared with the pre-test result. Based on the experiment, findings show that there was significant changes in the post test group collectively and this means that the that the treatment, computer literacy as the focal programme was effective and the evaluation also show that all the questions received positive rating and responses. The studies show that more programmes such as this are needed in this areas and since computer knowledge is the world it becomes imperative to impact the knowledge early in life.

Keywords: Computer Literacy, Computer Education, Primary Education in Nigeria.

Introduction

The general aims of education are the acquisition of appropriate skills, abilities and competence, both mental and physical for the individual to live and contribute to the development of the society. The goal of education among others includes the inculcation of the right type of values and attitudes for the survival of the individual and the Nigeria society with concomitant acquisition of competence necessary for self-reliance. However, the goal of education, and the method of approach may differ from place to place, nation to nation and people to people (Fafunwa, 1974).

Besides that, Nigeria has now placed emphasis on computer literacy, a technology that cut across global knowledge, discipline, culture and languages, yet, Nigerians are far behind due to illiteracy. To education is the right of every man, woman, it has been proclaimed and confirm as a way of self-reliance especially in time of unemployment and economic recession. Education also helps to direct a person towards worthwhile goals, providing training for a job, develop skill to achieve and enable person to utilize his abilities to the fullest.

In 2011, the UNESCO institute of information technology in education (IITE) launched a new project which is focused on the role of computer in primary education. The aim of (IITL) project "Computer in primary education" is to facilitate the policy dialogue and build a foundation for effective primary education through computer usage.

Primary education is the largest subsector of any education system and offers the unique opportunity to contribute to the transformation of the society through the education of the young. In order for the young people to adjust and compete in the rapidly changing environment of the contemporary world. Thy need to have a set of life skills which include among others, communication, analytical and problem solving skills for creativity, flexibility, mobility and entrepreneurship. Thus an educational strategy needs to be oriented on the new lifestyle concept and corresponding skills development alongside technology innovation.

Today, improved communication technology has made time and space less complex. It could be observed that this modern age is the age information explosion in which an average individual wants to explore the information system. Thus, the ability for timely acquisition, utilization, communication and retrieval of relevant and accurate information has become an important attribute for better teaching-learning process (Adebayo, 2008).

Abolade and Yusuf (2005) described information and communication technology as essential tools in any educational system. They have potentials of being used to meet the learning needs of individual students, promote self-efficacy and independence of learning among students, and improve teacher's professional development. Apanpa and Lawal (2009) opined that the use of technology and knowing how technology can support students learning has become essential skills for professional teachers in today's world.

Adebayo (2008) asserted that the functions of teaching in education process is considered paramount especially when we consider teaching and learning processes as the acquisition of knowledge and skills by individuals to enable him become useful member of the society. Teachers are the primary agent of educational innovation therefore; ICT skills among primary school teachers should be seen as an individual prerequisite that would help facilitate the teaching and learning procedure in this modern age of information explosion.

According to Idowu (2001) the main objective of information technology to teaching and learning is to facilitate a faster and better comprehension and appreciation of the subject matter in such a way to obtain the maximum possible output for the teaching and learning process. Nwachukwu (2005) opined that with the changes in the forms, formats, and expression of information, the process of access, storage, transmission and reproduction have witnessed new media technology, it is therefore a paramount importance for teachers to adapt themselves to the new roles and skills in order to cope with the impending changes. Satharasinghe (2003) posited that use of computer can revolutionize teaching, learning and could bring advances that would improve education dramatically.

Jegede (2008) opined that ICT is now recognize as an essential ingredient for creating the 21st century learning environment but Lau and Sim (2008) reported that despite the apparent benefits of the uses of ICT for educational purposes, studies have shown that many cases, the learning potentials of ICT is deprived as many teachers are still not fully ICT literate.

Mutala and Mutala (2007) asserted that there is a digital divide which refers to the widening imbalance of access to ICT's between communities and countries which creates an imbalance for equitable access to quality education in an electronic age. They further opined that schools are being seen as very important institution for bridging the digital divide in the society because they represent focal point where many children from different communication converge for learning purposes. Though Servon (2008) argued that the technology gap should not be defined narrowly

as a problem for access. Training and content, should be included as other dimensions of the digital divide so that the policy makers and programs to narrow the digital divide would not lose their focus. It is therefore a paramount importance for teacher's preparatory institutions to aim at developing ICT pedagogical competencies that will ensure that these teachers help the country to help the country to cross over to the positive side of the digital divide and keep pace on the information superhighway (Akudolu, 2002).

Problem Statement/Justification

Even though computer science and technology is a relatively new phenomenon in Nigeria, the use of computer is reflected in many areas of human activities, such as medicine, domestic activities, engineering, architecture, and education, It is imperative to note that the use of computer is reflected in primary school programs. However, computer science and technology in the education sector calls for all stakeholders in the education to be computer literate, if primary schools are to cope with the challenges in the society, computer literacy should be demonstrated through availability, Utilization and content competencies in the schools.

Facilities and resources such as computer and internet are very important tools in the hands of teachers who do the training if the literacy level in primary school education is to be enhanced. This paper therefore focuses on the efficacy of computer literacy in enhancing the literacy level in primary education in Kogi central.

Objective(s) of the Study

The objective of this study are as follows :-

1. To determine the literacy levels of pupils in primary school

2. To expose the primary school pupils on the use of computer

3. To enable primary school pupils to be able to use computer in various works of life

4. To enable the present generation of school children appreciate the potentials of computer

Literature Review

Nigeria now placed emphasis on computer literacy, a technology that cuts across global knowledge, discipline, culture and languages. Yet, Nigerians are far behind due to illiteracy. To educate is the right of every man, woman, it has been proclaimed and confirm as a way of self-reliance especially in time of unemployment and economic recession. Education also helps to direct a person towards worthwhile goals, providing training for a job, develop a skill to achieve and enable person to utilize his abilities to the fullest.

Concept of Education

The word 'EDUCATION' is derived from the Latin words—'Educare ,Educere, Educo and Educatum' 'Educare' means 'to bring up' or to 'nourish', 'Educere' means 'To draw out' or to 'manifest' 'Educo' means 'to lead out of' 'Educatum' means ' Act of teaching or instruction' 'Educere' means To draw out or to manifest. The term Educare or Educere mainly indicates development of the latent faculties of the child. But child does not know these possibilities. It is the educator or the teacher who can know these and take appropriate methods to develop those powers. In Hindi, the term "Siksha" has come from the Sanskrit word "Shash". "Shash" means to discipline, to control, to order, to direct, to rule etc. Education in the traditional sense means controlling or disciplining the behaviour of an individual.

The goal of education is to develop physical, mental, emotional, social, moral and spiritual aspects of life Education is a life long process. It starts from the cradle to grave. In broader sense, Teacher in the process of education is friend ,philosopher and Guide. Present education is Student or paedo centric education. It is a gradual developmental Process and is regarded as the process of Socialization Education in its narrow sense, has to strive to attain predetermined aims during a specified time by providing pre-structured knowledge to children through set methods of teaching. The purpose is to achieve mental development of children entering school. In narrow sense, education may be taken to mean any consciously directed effort to develop and cultivate our powers.

Education is a process in which and by which knowledge, character and behaviour of the young are shaped and moulded. The influence of the environment of the individual with a view to producing a permanent change in his habits of behaviour, or thought and attitude. Education, in the narrower sense, is regarded as equivalent to instruction. It consists of the "specific influences" consciously designed in a school or in a college or in an institution to bring in the development and growth of the child. The word school includes the whole machinery of education from Kindergarten to the University. The school represents formal education as it imparts education directly and systematically.

According to John Dewey: "The school exists to provide a special environment for the formative period of human life. School is a consciously designed institution, the sole concern of which is to educate the child. This special environment is essential to explain our complex society and civilization". According to Mackenzie, education, in the narrower sense, is conscious effort to

develop and cultivate our innate powers. It is also regarded as acquisition of knowledge. According to it education is a process by which knowledge or information on a subject is acquired.

But the acquisition of knowledge is not the only or supreme aim of education, yet it is one of the important aims of education. Education in the Broader sense, is the total development of the personality. Education consists of all those experiences, which affect the individual from birth till death.

Education in the wider sense is a life-long process. It begins with the birth of a child and ends with his death. It is a continuous process. Life is a continuous process of growth and development and so education is also a continuous process. An individual learns through his experiences, which are acquired throughout his life. Education is not merely collection of some information. It is acquisition of experiences through life in the social and natural environment. It includes all the knowledge and experiences, acquired during infancy, childhood, boyhood, adolescence, youth, manhood or old age through any agency of education- the press, the travels, the club, the nature- formally and informally. Thus, education becomes the sum-total of all experiences that the child receives either in the school or outside. In wider sense, life is education and education is life. Education is the process whereby a human being gradually adopts himself in various ways to his physical, social, and spiritual environments. It is the development of all those capacities in the individual, which will enable him to control his environment and fulfill his possibilities.

Importance of computer education

Computer Education Improves Research Skills: A computer provides the most important tool for research in today's life that is the internet. The Internet is defined as a network which is formed by connecting different networks. Today the internet can help us with almost anything. Most importantly, the internet helps us in research. Starting from the students studying in school to the scientist working in laboratories, computer, or more precisely the internet, helps everybody in research. The Internet is flooded with abundant information on almost all the topics of which we are aware of.

Computer Education helps in getting Good Jobs: Today the computer industry is growing at a very fast rate. Computers are needed everywhere. They have become an essential part of each industry. Today almost every work is dependent on computers. So the industries or companies hire those workers which are trained to use computers or have some knowledge as to how to use

computers. Computer education should be taught to the students from the very beginning. They should gain a good command in the field of computers. In the whole academic life of the student, they should become so trained in the field of computer education that every company will hire.

Computer Education helps in Enhancing Technology: Today, most of the technology depends on the computer system. From the basic electronic devices to astronomical devices, everything needs a computer. So if someone wants to create a new technology he should have known about the computers. For example, a person wants to create a machine which could be used in medical science.

Computer Education Increases the Efficiency of a Person: Consider a person who does not have any knowledge of the computer. The person works in the accounts department of some company. The person has to keep track of all the financial records of the company, he needs to maintain the record of all profits and loss of the company from the very beginning. This will require a lot of time, concentration, speed and memory.

Computer Education helps in Creating a Better Education Environment: Smart classrooms are emerging these days. Every school uses computers to teach their students. It creates a more effective learning and teaching environment. Learning becomes easier with the use of technology. Along with becoming easier, it becomes all the way more fun. To use the facilities available in a smart classroom, computer education is necessary. Every school prefers to employ those teachers who can use computers as a teaching tool. Computers can be used to teach a lot of things. With multimedia available in the computer system, the difficult topics can be easily understood. The information delivered to the students via a computerized is much more easily retained by them than the regular delivery of information. So for imparting proper and effective education to the students, the teachers must possess a fair education about the computer system and their usage.

Computer Education makes Communication Easy: The world is very large. All our loved ones do not live with us. We all want to communicate with our loved ones who reside in the different parts of the world or country.

Computer Education Connects us to the Online World: Everything today is becoming online. This is just done for our convenience. Today, we do not have to visit a bank for transferring money, nor we have to go to the market to do shopping .it is available to us online as online banking and online shopping. We can fill examination and other kinds of the form online. Now we do not have to run to the theatre or railways station to buy movie tickets and train tickets, we can book them

online. We can plan our tours online. We can connect with our friends online. The online world also provides us with entertainment. All this could not be possible without computers. But to use all these facilities, computer education is required. Without a computer, we cannot use such facilities which are specially designed for our convenience.

Primary Education in Nigeria

Primary education is the foundation of any education. If it is properly taken care of, it means all other aspects, that is, secondary and tertiary institutions will be well built. This paper therefore focused on the concept of primary education, objectives, administrative structures and finally delved into the problems and prospects of primary education in Nigeria. This is the education given to children after nursery education.

Adepoju in Orimidu (2004), sees primary education as the education which is exposed to children in primary institution, where the child acquires fundamental knowledge, skills, thought, feelings and actions, which are considered necessary for all citizens, regardless of social status, vocation or sex. Generally, education is seen as a tool for a nation's development and very vital in the .life of its citizens. In line with this, Nwagwu (1977:12-13) observes that:

The national policy on Education (2004) defines primary education as: Primary education as referred to in this document is the education given in institutions for children aged 6 to 11 years. Since the rest of the education system is built upon it the primary level is the key to the success or failure of the whole system. The duration shall be six years (p. 11).

The rest of the education system is built upon it and so it can be termed the strong foundation of other levels of education. The effective implementation of primary school education curriculum results in the achievement of the goals of primary education. According to the National policy on education (2004), the goals of primary education in Nigeria include:

1. To inculcate permanent literacy and numeracy, and ability to communicate effectively;

2. To lay a sound basis for scientific and reflective thinking;

3. To give citizenship education as a basis for effective participation in and contribution to the life of the society;

4. To mould the character and develop sound attitude and morals in the child;

5. To develop in the child the ability to adapt to the child's changing environment;

6. To give the child opportunities for developing manipulative skills that will enable the child function effectively in the society within the limits of the child's equality;

7. To provide the child with basic tools for further educational advancement, including preparation for trades and craft of the locality. (Pp. 11 – 12)

Objectives of Primary Education in Nigeria

The National Policy on Education (1998:13), states the objectives of primary education in Nigeria as:

(a) Inculcate permanent literacy and numeracy, and ability to communicate effectively;

(d) Lay a sound basis for scientific and reflective thinking;

(e) Give citizenship education as a basis for effective participation in and contribution to the life of the society;

(f) Mould the character and develop sound attitude and morals in the child;

(g) Develop in the child the ability to adapt to his changing environment;

(f) Give the child opportunities for developing manipulative skills that will enable him to function effectively in the society within the limits of his capacity;

(g) Provide the child with basic tools for further educational advancement, including preparation for trades and crafts of the locality.

Usefulness of computer education in the primary level of education

Nigeria's National ICT Policy of 2003 acknowledges that ICT offers a new opportunity to improve education in all areas. It is in the same light that the Ministry of Education and Vocational Training posits that the use of ICT in teaching and learning as well as administration and management enables the country to achieve the education and national development objectives.

ICT was introduced as one of the subjects in primary schools in 2005 (TIE, 2005). The subject is called ICT for English medium primary schools and *Teknolojia ya Habari na Mawasiliano* (TEHAMA) for Kiswahili medium Primary schools. According to TIE (2005), the main objectives of teaching and learning ICT in primary schools include the following: to ensure that pupils are able to use IT tools and information resources effectively in order to analyze and present information; to help pupils realize the role of information and communication technology in social, economic, political and cultural development of a society; to enable learners develop knowledge and skills in the use of information and communication technology facilities; and to acquire knowledge and skills in the use of information and communication technology in teaching and learning process.

This study sought to investigate the extent to which primary school pupils in some selected schools in Nigeria were able to use computers after attending ICT lessons. As pointed out earlier, one of the objectives of teaching and learning ICT subject in primary schools is to enable pupils to have abilities to use ICT tools, including computers.

In recent times, the world has witnessed a rapid increase in technological innovations. This era ushered in the advent of the electronic computer system among other modern technologies. At present the computer technology has permeated nearly all aspects of human organizational roles and education.

Computer encompasses almost all facets of human endeavours. So much has been written on it and its relatedness to all areas of human disciplines, which include computer/information technology, engineering, agriculture etc. However, much work has not been done on computer and its application and relevance to education. This work aims to fill this gap, as it discusses it importance to the field of education

According to McCormick (1993), computers can be used to diversify, develop and improve the pedagogical relation of teaching and learning. Also, technological development can only be enhanced through proper acquisition of scientific knowledge: which can only be realized through relevant training in Science, Mathematics and Computer Education.

It was in this light that the Federal Government of Nigeria launched the National Policy on Computer Literacy at primary, secondary and tertiary levels of education in 1987 with the following general aims:

For the computer to transform the school system, as there is increased merger between the computer technology and communication; and to equip the individual or student with thorough understanding of the concept of computer in order to fit in to the next century.

The National programme on Computer Education as put in place by the Federal Government of Nigeria was received with open arms and regarded as a technological innovation in educational practice in Nigeria institutions of learning. Computer Education was perceived as a new instructional system that was designed to improve the quality of teaching and learning and to aid technological and socio-economic development. This was further corroborated by the then Federal Minister of Education, Professor Jubril Aminu in his address to the Adhoc Committee on Computer Literacy in Nigeria that the objectives of the nation's Computer Education programme, among other things, were as follows:

1.   To bring about a computer literate society in Nigeria within a short space of time.

2.   To enable the present generation of school children at all levels, appreciate the potentials of the computer; and

3.   To enable them to be able to use the computer in various works of life and later occupation.

With these laudable objectives, all state governments throughout Nigeria follow the Federal Government policy to introduce Computer Education and Literacy in secondary schools in 1997 with the following general objectives:

1.   To bring about a computer literacy in each state in Nigeria.

2.   To develop the use of computer as teaching tool in all subject areas and to familiarize students with the use of computer technology.

3.   To enable the present generation of school children at the secondary school level appreciate the potentials of the computer and be able to utilize the computer in various aspects of life and later occupation; and

4.   To expose the teachers and the students to the latest scientific knowledge and skills.

From the foregoing, based on the importance of computer to learning, introducing it into the Nigerian educational system can be said to be a step in the right direction.

Methodology

Research Design

The research study adopted an experimental pre-test, post test control group design. The design has been described as the ultimate form of research to provide the most rigorous test of hypotheses. The design is shown thus:

Group 1   Treatment

Group 2   Control Group

RO_1 x   03   Treatment

  O_2 x   04   Control

Population/Sample

The population of the study consisted of 5 randomly selected primary schools in Kogi Central Local Government Area. The primary six students were purposely selected for the study because of their maturity and literacy level.

Due to the COVID-19, the class was a small group of 20 each. The schools selected are:

- Audu Wokili Primary School

- Amazing Grace Primary School

- LGEA Primary School, Okene

- LGEA Primary School, Ogaminana.

- ICON Schools, Kabba Junction

100 in all, 20 each from the sampled schools as mentioned above.

Research Questions

From the statement of the problem, these research question are formulated

1. Will computer literacy training be efficient?

2. Will male and female primary school pupils differ in their pre-test score?

3. Will male and female primary school pupils differ in their post-test score?

Research Hypothesis

1. There will be no significant difference between pre-test and post-test score of pupils in the 5 local government area of Kogicental

2. There will be no significant difference in the scores of the treatment group and the control group

3. There is no difference in the result of the pupils on the basis of sex.

Research Instrument

The population of the study consist of all primary schools in Kogi state. Out of 21 Local Government in Kogi State, the study was restricted to 5 randomly selected primary schools in Kogi Central Local Government Area. Also, primary six pupils were selected because of their maturity and literacy level.

The instrument used was a questionnaire titled : Computer Literacy Education (CLE) to aid the research in getting the pre and post-test data for the purpose of comparison of scores before and after the experiment. The instrument was validated by four experts, after corrections the questionnaire was deemed valid enough. The reliability of the instrument was 0.84 which was high for an instrument of this nature.

Experimental Procedure

The experiment spanned 8weeks of group computer literacy/workshop which consisted of computer training skills such as introduction to computer, computer operation word processing and electronic spreadsheet. There was resource personnel and the use of projector, laptops, and

generators. The setting was a workshop setting with material such as biro, pencils, customized note books, bags, refreshment and honourarium for resource persons as well as the preparation of the hall to use. Percentages, mean, t-test statistics was used to analyzed the research hypotheses.

Analysis of Research Question

Table I: Programme Evaluation

S/n	Items	Responses		
		Yes	No	Not sure
1.	Has the programme changed the students perception	100%	-	-
2.	Has the programme been of any use to the students as they plan to	100%	-	-
3.	How much have the students benefited from the programme	100%	-	-
4.	Should the programme continue or not	100%	-	-
5.	Using the skills they have been able adjust to the use of ICT?	100%	-	-
6.	Would you conduct follow-up services	100%	-	-
7.	Would they be able to recommended the programme to others	87.50%	-	12.5%

All the respondents (100) agreed that the programme has changed their perception about what they can get from computer education. The students agreed that the programme be incorporated into computer education programme and they equally agreed that all the components of the programme should be activated.

Research Hypothesis

The hypothesis stated that there is no significance difference between the treatment and control groups in the efficacy of computer literacy workshop.

Table 1: Means, SD and t value of group one and control group.

Variables	N	$\bar{x}$	SD	Df	Cal. Value	t-crit
Treatment Group	50	214.17	7.92	98	4.96	3.07
Control Group	50	203.25	10.27			

$P<0.05$

The table I indicates that there is significance difference in the post test scores between treatment and control groups. This means that the result support the efficacy of computer literacy

workshop in assisting the pupils in improving their knowledge of computer

Research hypotheses 2

Table II: Means, SD, and t value of variable of sex control group and on the basis of sex.

Gender	N	$\bar{x}$	SD	Df	Cal. Value	t-crit
Male	50	227.25	6.62	98	6.49	2.07
Female	50	203.25	10.27			

P<0.05

The table II indicates that there is significance difference between male and female this indicated in the calculated value of 6.62 and t-critical 2.07. This implies that regardless of any variables male and female are unanimous that computer literacy is equally efficacious in assisting the pupils in the knowledge of computer.

Discussion of Findings

Hypothesis 1 states that there is no significance differences between the groups in the efficacy of Information Technology Workshop. The uses shows that workshop was a success and the main treatment shows significance gain. The finding agree with Gladding (2009) that ICT is indeed ruling the world as many students found the workshop fascinating and Bada, Ajibade & Ojeodulu (2009) agreed that in recent times, the world has witnessed a rapid increase in the technological innovations and particularly the computer aspects is encompasses almost all facets of human endeavor. Okorodudu (2010) opined that computer technology in schools is one of the most important innovations. Another innovation is that one of the reasons for teaching and learning computer in primary schools is to enable pupils have abilities to use computer (Kantantidis, 2013).

Hypothesis 2 shows that on the basis of sex, there is significance change in the subject. This means that indeed, both male and female students are unanimous in the acceptance of ICT. This result is in line with many scholars such as Olorundare (2011), Oye, Obi, Mohd & Bennice (2012). When all ascertained that ICT is the thing and everyone is keying in on its use in the primary school. This is in line with Mbonu (2008) who opined that with ICT, people can do anything. It is the wonder of the world.

The evaluation shows that all the students are aware of what computer can do. The program evaluation questions also showed great significance as all the questions revealed were positively answered. As shown on table I, the questions were answered in affirmative, showing that the students enjoyed the program and recommended it to others.

Implication of the Study

The result of the study revealed that the students all have knowledge of ICT and the future is bright for these student. The implication of the finding is that proper training of students should start early so and to be properly grounded in ICT by the time they are in higher institution. This is inline with Freeman (2000) students should begin to build up their technological skills from primary school upward.

The implication also shows that there is classroom should be upgraded in each school to be in compliance with ICT standards. Also teachers need to be computer literate and they are to be upgraded by attending workshops and conferences.

Recommendations

Based on the implication of the study, the following becomes necessary:

1.   All schools student should embraced ICT and make use of it.

2.   ICT should be integrated into existing school subjects.

3.   Adequate provision of constant supply of electricity in all educational institution and all primary school is inclusive.

4.   Teachers should be encouraged to attend workshops on hardware and software in the classroom.

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