COMPUTER USAGE AND STUDENTS ACADEMIC PERFORMANCE IN SECONDARY SCHOOLS IN EGOR L.G.A. OF EDO STATE

BY

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A RESEARCH PROJECT SUBMITTED TO THE DEPARTMENT OF CURRICULUM AND INSTRUCTIONAL TECHNOLOGY, FACULTY OF EDUCATION, UNIVERSITY OF BENIN IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF BACHELOR DEGREE B.SC. (ED). IN COMPUTER SCIENCE EDUCATION

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CERTIFICATION

This is to certify that this project work was carried out by ENEHIZENA ESEOSA in the Department of Curriculum and Instructional Technology (CIT), Faculty of Education, University of Benin, Benin city, in partial fulfilment of the requirement for the award of Bachelor Degree in Education (B.Sc. (Ed)) in Computer Science.

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DEDICATION

I dedicate this research work to God almighty for his grace upon my life to make this a reality.

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ABSTRACT

This study investigated computer usage and students' academic performance in senior secondary school in Egor L.G.A. of Edo State. The study aimed at finding the influence of computer usage on students academic performance, the extent of the use of computer in senior secondary schools, attitude towards the use of computer and factors hindering the use of computer. The study employed descriptive research design. The population consist of three hundred (300) students from three (3) private and public schools with a sample size of sixty. The instrument used for this study was structured questionnaire and the data was analyzed using frequency count and simple percentage.

Finding showed that computer usage has positive influence on students' academic performance, the study also showed that most students have not used computer in their schools. The study revealed that students are nervous when using the computer and the findings also showed that availability of computer and ICT facilities are major hinderances to the use of computer.

CHAPTER ONE

INTRODUCTION

Background of the Study

In the last decades, the world has been greeted with increase in technogical advancement, which brought about the use of electronic computer systems among others. Computer usage has been on the increase in almost every sphere of human endeavors finding it's usage in health, business, sports and most significantly in Education, just to mention a few. Government at different times in Edo state, have contributed in ways to promote the use of computer in our secondary schools. Edo state government under the leadership of Gov. Godwin obaseki launched the Edo Best programme which integrate the use of tablets in teaching of students in the primary and junior secondary schools across the state. According to this day life magazine (2021) Speaking during the inauguration of Edo BEST 2.0 held at the Government House, Benin City. The governor, who also used the opportunity to expand the Edo BEST programme to capture secondary schools and tertiary institutions in the state, said this became necessary to ensure that secondary schools and tertiary institutions in the state benefit from the gains in digital teaching recorded in primary schools through the initiative, which was inaugurated in 2018.

It is important that students are well prepared to be active players in an information society through the educational system in which knowledge and data are indicators for social and economic development and where computer based activities increasely dominate the

different types of work. The use of computers, mobile devices, and the Internet is at its highest level to date and expected to continue to increase as technology becomes more accessible, particularly for users in developing countries (Poushter, 2016). Skills that are needed in future society are those that have the ability to explore, analyse, coordinate and improve knowledge by self-directing one's own thinking and cognitive activities.

Stake holders in the Educational sector are working together to find improved pedagogical methods that can measure up with new technologies and innovations. In the light of these this computers could play an important role as tools for Improving the teaching-learning processes to be better prepared for future challenges. Computer usage encompasses computer technology based teaching and learning in various ways which includes; educational videos, simulation, storage of data, using the internet, computer Aided Instruction (CAI), Computer Supported Collaborating Learning (CSCL), Computer Assisted Learning (CAL), Computer Based Education (CBE) and the like.

It is a clear fact that information technologies are increasely often used in the educational system. It is evident that computers are used not only as additional tools in sphere of education, but represent new ways and procedures of institutional framework in the process of education development. Education information implies a modern information technology in the process. Information technologies has found its way into almost all spheres of educational fields. This is evident in the rising increase in the use of world wide web which is an open door to information concerning education in its different servers and also the use of modern telecommunications by student and teachers in the teaching and learning process,

which leads to the development of new forms of teaching and learning, which helps to solve constantly increasing range of educational tasks. Using modern computer technology and resources in educational field plays an important role in making the teaching process seamless by integrating the technological methods and innovations and to meet up with global educational standards. We are in the age where students are referred to as digital natives. These digital natives prefer to read through digital devices (computer, tablet computer, and handheld devices) rather paper. As for these digital natives, they are willing to receive information quickly, are skillful at processing information rapidly, are more likely to access information and to make social and professional interactions through various communication technologies (Frand 2000; Prensky, 2001a; Obinger, 2003). Processing approach of these digital natives have fundamentally changed by the new devices (Prensky, 2001b).

Several studies by (Johnston & Joscelyn 1989; Kozam & Johnson 1991; Perkins,1992) emphasize the use of computers in a learning environment can increase Learners to be actively involved in thinking and problem solving, increase understanding and mastery of learning, and more real learning. Today, computer usage is a new innovation in education brought about by the development of science and technology. The integration of computer usage into the secondary school system provides ways to solve the teaching and learning problems, helping students to have practical knowledge in a technogical based subject which helps them understand the concept being taught.

Students' academic performance deals with competencies, skills and attitudes learned through the Education experience (Kamba, 2009). According to Baugher(1999) computer might also be used to handle the extremely complex programmes that are necessary for more individualized learning. According to Fajola (2001) Computers can be used by teachers and students in the teaching and learning process thereby increasing students' academic performance. Other benefits of computer usage in Education as propondend by Abimbade (1997) include; making students learn at their own pace, allow students have control over the rate and sequence of their learning, giving appropriate feedback, promoting individualized instruction through personalised responses to learner's action to yeild high rate of reinforcement, provides a more positive affective climate especially for slow learners, all geared towards promoting students' academic performance.

Computer usage plays an important role in the modern educational system. It is easy for students to find information through the internet using the computer instead of searching different books for such information. We are in the era where students are not limited to prescribed books to study alone, they also engage their time in educational software and games using the computer, which improves their thinking skills and abilities. Questions remain on whether the use of computer has influence on the academic performance of students of which this study aims to investigate.

Statement of the Problem

Reality shows that in many schools today, students are taught science and technical subjects using the traditional method of teaching, where many concepts were taught and learnt in

isolation. Students in these classes just listen to the teacher, memorize the information; resulting in them being bored. Traditional method of teaching which is mainly teacher centred does not give room for students to express their academic potentials, coupled with limited educational materials and facilities like up to date laboratory, functional library and reduced numbers of teachers in our secondary schools which makes teaching and learning much stressful. Computer usage in secondary schools has the potential of improving the academic performance of secondary school students where they can easily use the computer to simulate complex tasks, access the internet, use it for self-study and much more. The reality is that these computer technologies and its usage are not fully implemented in our secondary schools there by limiting students' academic performance. We are in the computer age where students are naturally inclined to make use of the computer and its related devices, which make it easier for the students to easily accept the use of computer. Many researches have been done in this regard to find out the relationship between computer and students' academic performance. The problem of the study therefore is to access the usage of computers and students' academic performance in Egor L.G.A. of Edo State.

Research Questions

Four research questions were raised to guide the study.

(1) What is the influence of computer usage on students' academic performance?

(2) What is the extent of the use of computer in schools?

(3) What are students' attitudes towards the use of computer?

(4) What are the factors hindering students use of Computers in schools?

Purpose of the study

The main purpose of the study is to ascertain the influence of computer usage and students' academic performance in secondary Schools in Egor L.G.A. of Edo state. Specifically, the study seeks to find out the:

1. influence of computer usage on students' academic performance in secondary schools in Egor L.G.A. of Edo state;

2. extent of the use of computer in secondary Schools.

3. students' attitude towards the use of computer and

4. factors hindering students use of computers in secondary schools.

Significance of the Study

The valuable feedback gotten from respondents would help

- curriculum planners and developers to be aware of the needs of the students and serve as a guide on how to plan the curriculum to integrate the use of Computers in the secondary School curriculum.
- It will help teachers to be aware of the roles Computers can play in helping them to teach effectively.

- It will also serve as a guide to quality assurance officials so they can monitor and enforce proper use and standardized computer laboratory for effective teaching and learning.
- It will help students to be aware of the various ways they can develop themselves and perform better with the use of Computers.
- It will also help researchers to get first-hand information and also as a topic for further research.

Scope/Delimitation of the study

The focus was on assessment of computer usage and students' academic performance putting into consideration gender and school type. This study will focus on students in senior secondary schools 1 and 2 in Egor L.G.A. of Edo State.

Limitation of the Study

Time constraint: There was limited time for this research due to attending classes for other courses from other departments and subsequent preparations for examination.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

This project seeks to find out computer usage and students' academic performance in secondary schools in Egor LG.A of Edo State. The review of related literature as it relates to the topic of concern shall be done in the following headings:

- Educational technology and students' academic performance.
- Computer usage: integration and complexity and students' academic performance.
- Teachers use of computer and ICT and students' academic performance.
- Students use of computer, anxiety, attitude and students' academic performance.
- Summary.

Educational technology and students' academic performance

Definition of educational technology according to AECT (The Association for Education Communications & Technology) is the study and ethics of practice to facilitate learning and improve performance by creating, using, and managing appropriate technological processes and resources.

Schneider (2011) defined educational technology as "the ethical practice of facilitating learning and improving performance by creating, using and managing appropriate technological processes and resources". This can be viewed as collection of tools that work together that might be helpful in Improving students' performance. Educational technology encompasses the use of computer and other equipment and applications such as

videoconferencing, digital television (allowing students to interact with programs at their own pace), electronic whiteboards, and digital cameras (Jackson, 2008; McCampbell, 2002; Marshall, 2002). All these tools interphasing with each other could improve students' academic performance. Educators have struggled with decisions regarding what types of technology to use and how to use them (Culp, Honey & Mandinach 2003). Researchers have observed that there is not one "right" type of technology or one "right" way to use it; rather, it should match schools' learning and teaching goals and be appropriate for the students who use it (Sivin-Kachala & Bialo, 2000). Using technology in schools helps to achieve different goals. The goals may include increasing students' economic competitiveness, reducing inequalities in access to computers, raising student achievement, increasing student engagement, creating a more active learning environment, and making it easier to differentiate instruction according to students' needs (Bonifaz & Zucker, 2004). Different technology is likely to play a different role in students' learning. For example, word processing and e-mail can improve communication skills; database and spreadsheet programs can enhance organizational skills; and modeling software often increases understanding of math and science concepts (Honey, Culp & Spielvogel, 2005). Researchers are of the opinion that technology can improve learning by providing students with the following opportunities hands-on practice with increasingly difficult content; accessing a wide variety of information and gaining knowledge from many sources; visualizing difficult to understand concepts; interacting with data, engaging in hands-on learning, and receiving feedback; and managing information, solving problems, and producing sophisticated products using tools such as

spreadsheets, databases, and word processors. (Honey, Culp, & Spielvogel, 2005; Gahala, 2001; Johnston, 2000)

Apple Computer (2005) observed trends in students' use of technology. They reviewed 30 studies on educational technology programs and found out that students used laptops primarily for writing, taking notes, completing homework assignments, organizing their work, communicating with peers and teachers, and researching topics on the Internet. They are most likely to use word processing software, web browsers, and e-mail to accomplish these tasks. Those students who used their laptops to complete more advanced projects were most likely to use design and multimedia tools, such as presentation software and software for making and editing digital images and movies. According to (Jobe & Peck, 2008; Bebell, 2005; Honey 2005; Waddoups, 2004; Gahala, 2001; Healey, 2001) Proponents of educational technology are of the opinion that technology gives room for individual learning rates and styles and offers access to learning at any time and in any location. They believe that the integration of technology in the classroom gives students the opportunity to: acquire the technological skills they will need for future employment; develop critical thinking, problem-solving, and communication skills; collaborate with peers; engage in hands-on learning activities; and receive immediate feedback. Technology also gives teachers the ability to tailor instructional materials and assessments to directly suit their students' learning needs; offers access to more authentic material to help in the development and delivery of lessons; and provides additional sources of information for their students to draw upon in the classroom (Dunleavy, Dexter, & Heinecke 2007; Waddoups, 2004; Healey, 2001).

However, some researchers are not in total support of the use of technology in schools for the following reasons: (Dunleavy, 2007; Valdez, 2005; Jackson, 2004; Cooley, 2001; Wright, 2001; Blumenfeld, 2000; Weiner, 2000; Oppenheimer, 1997). In their observation, they reviewed that Some educators have approved technology indiscriminately, with a view that using these technologies guarantees quality teaching and learning experiences. Technological innovations have not been properly used because most schools don't have the capacity to link equipment use with instructional objectives. Teachers needs to be well informed and trained about the proper use of these technologies to meet educational goals and objectives.

The adoption of educational technology in the classroom is claimed to be based on three theories of learning, i.e. Behaviorism, Cognitivism, and Constructivism Yassanne (2014). Jean Piaget, a cognitivist, believed that learning should be a process rather than some stable state or end process and Jermone Bruner, a critic of some of Piaget's earliest work affirmed that individuals form or construct much of what they learn and understand (Bruning & Schraw, 1995) as cited by Schunk (1996). However, both theorists seems to agree that students are able to acquire knowledge through active interactions with their learning environment. They advocate child centered learning which makes students to be active learner rather than passive listerners where students just respond, repeat and memorize information given to them by the teacher. Piaget claimed that such type of learning is incomplete and very short lived (Piaget, 1974, as cited by schunk(1996). The behaviourists believed that technologies in learning had been used to promote change (Boyle, 2016; Hainey, 2016; Scott, 2017). For behavioural instance, Hainey, (2016) found that primary students playing games with healthy food stimuli would improve their eating behaviour. Also,

the study of interaction among learners using educational tools was common (Petri & Gressevon Wangenheim, 2017). In addition, researchers were often interested in understanding the level and type of interactions with study participants and the technological learning systems (Amara 2016; Manathunga & Hernández-Leo, 2015; Pérez-Sanagustínet, 2017). Teachers who are faced with the challenges of enhancing students' performances because of the use of the traditional method need to identify the needed changes and proceed in a planned, organized way to adopt a programme that will lead to the desired changes (Yassanne, 2014). The most important thing to the understanding of the theoretical view of the use of educational technology in the classroom, is that students in the classroom who are exposed to educational technology will be active knowledge seekers. They will be given the opportunity to explore and create their own understanding of concepts being taught. Piaget (1974) cited in Schunk (1996) postulates that active methodology integrating technology can improve self-motivation and independent learning, rather than merely transmitting facts and rules. Thus, self-motivation, independent or cooperative discovery can lead to better academic performance in students.

Computer and ICT usage: integration and complexity and students' academic performance

According to Zandvlift & Straker (2001), Information and Communication Technology (ICT) use is increasing in nearly all facets of life in the developing world and its use is now progressing rapidly in many schools. However, some researchers are of the opinion that schools have been slow to adopt such technological change (Todd, 1999; Pelgrum & Plomp,

1991). This opposing evidence shows that what ICT promises for education may not guarantee its successful integration into schooling. Odera (2012) reported in her research listed five problems confronting the implementation of Information and Communication Technology (ICT) in Education thus: non-availability of computers or inadequate supply of computers in most of the secondary schools; lack of proper teacher training to help them integrate computers into teaching and learning; lack of time to incorporate computers into the subject being taught; inadequate or lack of physical facilities to enable schools to introduce computer education and lack of relevant software. These important factors have given room for other problems that can be attributed to poor implementation of computer integration in schools. Much needs to be done if a nation wants to measure up with the global world in technology by equipping both private and public schools with ICT and computer facilities. Patrick and Brenda (2018) cited Mungai, (2011) observed that many schools are not yet connected to electricity especially in developig countries, Nigeria inclusive. In such countries, the government has not been able to provide electriciy to all parts of the country making some students not benefit from the use of computer and ICT facilities. According to Mohammed and Yarinchi (2013), the inadequate power supply is one of the major problems confronting the teaching and learning process in Nigeria with particular reference to computers use among others leading to non-actualisation of the desired goals, and objectives. Agyeman (2007), reported that about 40% of Nigerians enjoy electricity from the national grid, however, the electric power supply is sporadic, and several communities in the urban areas lack electric power and those rural communities are worse off because of the absence of basic infrastructures.

The high cost of ICT facilities is also a major problem for poor integration of ICT in the Nigerian schools because many teachers and students don't have the finicial ability to buy the various ICT facilities they need to support teaching and learning in the classroom. Adomi (2006) found out that cost is one of the factors which influence the provision and use of ICT services, pointing out that the cost of computers is too high for many to afford. Brakel and Chiseuga (2003) identifies high rate of internet and the charges for satellite television are unaffordable for most people in Africa. The high cost of ICT facilities has made it difficult for Nigerian Secondary Schools to acquire and install ICT facilities for the use of teachers and students (Adomi and Kpangan, 2010). Oyekanmi, (2016) cited Alesinloye (2006) reported in his survey that, cost of obtaining a computer, weak infrastructure, lack of skills, lack of relevant software, and limited access to the internet are the factors impeding the successful use of Information and Communication Technology in Nigerian education. This is obviously present as the nation is faced with inflation and economic downturn. Sadly, this is a great discouragement to the adoption of computer and ICT in the country. In their study, Brummelhuis & Plomp (1991) describe the introduction of computers in education as a complex innovation in which many obstacles need to be overcome before one can speak of successful innovation. In addition to being time consuming and expensive, technology may confuse, intimidate and frustrate learners and users (King, 2002) resulting in slow adaptation. MacNeil & Delafield (1998) found that the main factors hindering the implementation of technology in the classroom are lack of financial resources for hardware, software, and infrastructure, and lack of time professional development and planning. Affirming these findings, Pelgrum (2001) asked practitioners from 26 countries what were the main material

and non-material obstacles for ICT implementation. Ten most commonly cited obstacles were the following: insufficient number of computers, teachers lack knowledge and skills, difficult to integrate in instruction, scheduling computer time, insufficient peripherals, not enough copies of software, insufficient teacher time, not enough simultaneous access, not enough supervision staff, and lack of technical assistance. These and many more are challenges of implementing computer and ICT use in schools.

Teachers Use of Computer and ICT and students' academic performance

In order to meet Sustainable Development Goals (SDGs), Education for All (EFA), and beyond, UNESCO (2006) advocate that adequate teachers' training in ICT both in-service teachers and teachers' trainees should be taken seriously alongside with investment of ICT in both secondary schools and teachers' training institutions across the Nation especially the developing countries. Though, the use of ICTs in Nigeria and African countries generally is on the increase and dramatically growing and there is a great deal of knowledge about how ICTs are being used in developed countries, but however no much information on how ICTs are being introduced into schools in developing countries (Beukes, 2006). It is evident that in some school teachers and students accessibility to ICT is very limited because of the inadequacy of ICT tools and where they are privilege, they spent less time to access internet (Chiware, 2006). This hinders teachers from gaining more knowledge about ICT and it's use making them not to meet with global educational standard. Computers and ICT can be used by teachers to make teaching easy make learning experiences more interesting and to offer students to have hands-on experience with what is being taught. Adeyinka and Toyobo (2007)

are of the view that ICTs are transformational tools which when used appropriately can promote the shift to a learner- centered learning approach. Thomas & Ranga (2004) classified the application of computers and other communication technologies in education into three broad categories: Pedagogy, Training and Continuing Education. The pedagogical applicability of the ICTs is about learning with the support of various components of computer. Olakulehin (2007) emphasized that pedagogic application of ICTs, involves effective learning with the aid of computers and other information technologies, serving the purpose of learning aids, which plays complementary roles in teaching and learning situations rather than supplements the teacher. They are capable of creating behavioural change in terms of cognitive, psychomotor as well as affective domain to the learners (Yusuf, 2005). Unfortunately, research works have shown that most secondary schools have either insufficient or no ICT tools especially in the rural areas to cater for the ever-increasing population of students in the schools and where they are available, they are by implication a matter of out-of-bounds to the students (Chattel, 2002; Cheng, 2001; Chiemeke, 2004). Fakeye (2010) also observed in a study carried in Ibadan that most of the schools covered do not have computers, hence are not connected to the internet. He added that those who have computers do not use them for teaching but solely for administrative purposes. In another research by Okwudishu (2005), he found out that the unavailability of some ICT components in schools hampers teachers' use of ICTs. Lack of adequate search skills and of access points in the schools were reported as forces inhibiting the use of internet by secondary school teachers (Adomi and Kpangban, 2010). A survey carried out by Yusuf, (2005) reported that only one school, out of ten has computer sets. It is worth noting that none of the ten schools

has internet facility. Ozoji (2003) revealed in a study that most of our secondary schools do not have software for the computer to function. On teachers' competence, many teachers in Nigerian secondary schools are not competent in basic computer operation and in the use of generic software (Yusuf, 2005). This finding shows the low level of ICT availability and computer utilization by teachers in Nigerian school system.

Students use of computer, Anxiety, attitude and students' academic performance

Several reasons have been attributed as contributing to students' poor utilization of the computer and internet in schools after being exposed to these technologies. A critical observation shows that among others, computer anxiety, computer use (self-efficacy) and attitude towards computer exert great influence on students' performance in using computer and internet Chavez (1997). Self-efficacy is the perceived ability to accomplish a task rather than Simple component skills Compeau & Higgins (1995). Computer self-efficacy represents a comprehensive Perspective of one's ability to perform a task using the computer. Computer self-efficacy was also found to be positively related to computer experience Busch (1995). Pauli, Gilson & May (2007) found that students with average levels of computer self-efficacy had high level of attitude towards the internet. Computer self-efficacy has been found to have a strong positive correlation with computer attitude Compeau & Higgins (1995).

Self-efficacy is a factor that determines future computer use (Awofala, Akinoso & Fatade, 2017; Alahakoon, 2016) and internet usage (Oyewusi, Sokoya, & Aramide, 2016). Social cognitive theory emphasises the evolvement and exercise of human agency that people can exercise some influence over what they do (Bandura, 2006). Self-efficacy according to

Bandura (2006) is defined as people's beliefs about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives. Computer self-efficacy is the beliefs of people about their competences to produce designated levels of performance on computer (Awofala, Akinoso & Fatade, 2017). It is obviously clear that self-efficacy beliefs moderate an individual technology use (Awofala, Akinoso & Fatade, 2017) in which those individuals with higher self-efficacy beliefs made use of computers more often and experienced less computer-induced anxiety than those with lower self-efficacy beliefs (Aktağ, & Tuzcuoğlu, 2016; Compeau & Higgins, 1995). More so, those individuals with lower computer self-efficacy beliefs incline to become more frustrated and anxious when working with computers and hesitate to use computers when they bump into obstacles (Aktağ, & Tuzcuoğlu, 2016; Compeau & Higgins, 1995). Computer self-efficacy has a significantly positive influence on an individual's expectations towards using computers (Aktağ, & Tuzcuoğlu, 2016; Teo, 2008) and individuals who saw themselves as incapable to use the computer tend not to use computers (Oliver & Shapiro 1993). It is obvious that computer self-efficacy increases performance and reduces computer induced anxiety (Balogun & Olanrewaju, 2016; Harrison & Rainer 2003) among users and that teachers' computer self-efficacy is a strong influence moulding their patterns of computer use (Achima & Al Kassimb, 2015; Albion, 2001). Computer anxiety also plays a significant role in the education usage of computer. Computer anxiety is the feeling of uncomfortable when using a computer (Awofala, Akinoso & Fatade, 2017). Howard and Smith (1986) in Akpan (2011) defined computer anxiety as the fear of intending interaction with a computer that is disproportionate to the actual threats presented by the computer. Computer anxiety has been observed by

Igbaria & Chakraberti (1990) to cause some individuals to avoid using the computer and internet to complete some tasks. Sam, Abang, & Zalmurjjudam (2005) found in their study that high computer anxiety made students to have negative attitudes towards the use of internet. The anxious person may have some negative thoughts, sweaty hand and increased heart rate or want to avoid working with a computer. Anxiety is generally caused by something new that is being being learned and this brings about resistance to change which may have a negative influence on cognitive performancce. (Torkzadeh & Angulo, 1992) observed three dimensions that characterise computer anxiety which includes; psychological, operational, and sociological. Psychological dimension includes attitudes toward computers, self-efficacy, personality types, avoidance, and self-perceptions. Operational dimension usually results from computer courses, teachers, nature of computers, the extent of experiences with the computer, and owning a personal computer. Sociological dimension is related to factors of age, gender, nationality, socio-economic status, and the field of study. Research showed that computer anxiety escalates struggle with computer and indicates a hurdle to a person's connection with computers (Arigbabu, 2009). Students who think positively about computer will notice errors when made as a stepping stone to improve their knowledge, relish learning new tricks and possess positive disposition towards computer. It is noted that lack of knowledge and skills in computer may have a strong negative effect on students' learning in secondary Schools.

Summary

This chapter reviewed some work done in Educational technology and students' academic performance, revealing how technology is used in education and its influence on achievement of students and the different innovations regarding modern day technology in education. It also reviewed the work on computer usage: integration and complexity and students' academic performance, giving an insight on how the use of computer and ICT is integrated in schooling, the limitations to actualizing the goal of seamless integration. The chapter also looked at teachers use of computer and ICT and students' academic performance showing that most teachers lack basic skills in computer operations and few computers are available for teachers. Lastly this chapter reviewed work done on students use of computer, anxiety, attitude and students' academic performance revealing that students attitude towards computer and computer anxiety has a great influence on students' performance in using computer and ICT.

CHAPTER THREE

METHODOLOGY

This chapter is to examine the procedures and methods that were employed in the collection of data for the study, particular attention was given to the following study:

- Research Design
- Population of Study
- Sample and sampling technique
- Research Instrument

- Validity of Instrument
- Reliability of The Instrument
- Method of Data Collection
- Method of Data Analysis

Research Design

A quantitative approach was the method used in the research. Descriptive survey design was used for the study. This design seemed to be very appropriate for the study since the study concerned mainly with investigating, documenting and describing computer usage and students' academic performance. The dependent variable for this study is students' academic performance and the independent variable is computer usage.

Population of the Study

A total of three hundred (300) students in three (3) schools in senior secondary schools in Ugbowo metropolis in Egor LGA from both private and public schools were used for this research. The use of simple random sampling technique was to ensure that every member of the population has an equal chance of being selected in the sample.

Sample and Sampling Technique

A sample size for this study was sixty (60) senior secondary students drawn out of the population size of 300. They were selected by simple random sampling technique. The use of simple random sampling technique was to ensure that every member of the population has an equal chance of being selected in the sample.

Research Instrument

The research instrument used was structured questionnaire to get primary data from respondents. The reason for this instrument was to analyse students' feelings, attitude and opinions from respondents in a quick and easy way. The questionnaire has twenty items with a rating scale of: SA- Strongly Agreed, A- Agreed, SD-, D- Disagreed and SD- Strongly Disagreed

Validity of Instrument

The instrument was submitted to the supervisor for comment, corrections and suggestions. These corrections and suggestions were incorporated to produce the right instrument.

Reliability of the Instrument

To establish the reliability of the instrument, a pilot testing was carried out on twenty students who were not part of the sample for the study. The instrument was administered twice within a week and the marks obtained on the two occasions were correlated using Pearson product movement correlation coefficient Y was obtained as 0.79.

Method of Data Collection

The instrument was personally administered to the student in both private and public schools. Enough time were given to the respondents to answer the questions. The total number of questionnaires used were sixty (60).

Method of Data Analysis

Descriptive statistics which made use of simple frequency and percentages was used for the data analysis for the twenty items in the questionnaire. It was choosen because it will explain the results very well.

CHAPTER FOUR

PRESENTATION OF RESULTS AND DISCUSSION OF FINDINGS

This chapter is concerned with the presentation of results and discussion of findings that were generated from the study. The results are presented and analysed in line with research questions in the study. Data collected for the study were analysed using frequency count and simple percentage.

Presentation of results

Research Question 1: what is the influence of computer usage on students' academic performance?

Answers to research question 1 are presented in table 1 below.

Table 1: influence of computer usage on students' academic performance.

items	Responses	
	Agreed	**Disagreed**
1. Using computer increases motivation to study.	48(80.0%)	12(20.0%)
2. Computer makes learning easy	46(76.7%)	14(23.3%)
3. Using computer educational software gives students confidence to broaden their knowledge	26(43.3)	34(56.7%)
4. Using computer distract students from learning	12(20%)	48(80%)
5. Computer usage makes lesson more interesting.	43(71.7%)	17(28.3)

From table 1, results gotten from the study shows that using the computer increases students' motivation to study (item 1, 80% agreed). It also shows that computer makes learning easy (item 2, 76.7% agreed). However, using computer educational software does not give students confidence to broaden their knowledge (item 3, 56.7% agreed). The results also show that computer use does not distract students from learning (item 4, 80% agreed), while the use of computer makes lessons interesting (item 5, 71.7%).

Research Question 2: what is the extent of the use of computer in senior secondary schools?

Table 2: extent of the use of computer in senior secondary schools?

Items	**Responses**	
	Agreed	**Disagreed**
6. Computers are used everyday.	—	60(100%)
7. Computers are used once in a week.	26(43.3%)	34(56.7%)
8. Students use computers during practical.	39(65%)	21(35%)
9. Computers are never used in my school.	34(56.7%)	26(43.3%)
10. Computers are used occasionally.	20(33.4%)	40(66.7%)

From table 2, the results from respondents shows that in (item 6, 100% disagreed) that computers are used every day while no respondents agreed to the statement. The result also shows that computers are used once a week (item 7, agreed). The result shows that computers are used during practicals (item 8, 65% agreed). While some students responded that computers have never been used in their schools (item 9, 56.7% agreed), the result shows that computer are not occasionally used in Schools (item 10, 66.7 % disagreed).

Research Question 3: what is the attitude towards the use of computer?

Table 3: Attitude towards the use of computer.

Item	Responses	
	Agreed	**Disagreed**
11. I feel happy using the computer	46(76.7%)	14(23.3%)
12. I feel comfortable using the computer.	30(50%)	30(50%)
13. I have confidence in using the computer.	36(60%)	24(40%)
14. I feel nervous using The computer.	44(73.3%)	16(26.7%)
15. I find it difficult using the computer.	39(65%)	21(35%)

From the result obtained from table 3, it shows that students feel happy using the computer (item 11, 76.6 agreed). The result also shows that students feel and do not feel comfortable using the computer (item 12, 50% disagreed or disagreed). The result also shows that students have confidence in using the computer (item 13, 60% agreed). While the result also shows that students feel nervous using the computer (item 14, 73.3% agreed). The result also shows that students find it difficult to operate the computer (item 15, 65% agreed).

Research Question 4: what are the factors hindering the use of computer?

Table 4: factors hindering the use of computer.

Items	Responses	
	Agreed	**Disagreed**
16. Non-availability of Computer.	45(75%)	15(25%)
17. Students lack computer skills.	23(38.3%)	37(61.7%)
18. Lack of ICT facilities	45(75%)	15(25%)
19. No access to computer Laboratory.	35(61.7%)	25(41.6%)
20. Inadequate power Supply.	37(61.7%)	23(38.3%0

The result gotten from the table 4 shows that non-availability of computer hinders computer use (item 16, 75% agreed). The result also shows that students don't lack computer skills (item 17, 61.7%). The result shows that lack of ICT facilities is a factor hindering the use of computer (item 18, 75% agreed). The result also shows that no access to computer laboratory is a problem as well (item 19, 58.4% agreed). The result also shows that inadequate power supply is a factor hindering the use of computer (item 20, 61.7% agreed).

Discussion of findings

The findings from research question one in table 1 revealed that the use of computer has positive influence on students' academic performance. This is in consonance with previously reported works, who argued that using the computer predict academic performance (Babni, 2019; Gubbels, Swart, & Groen, 2020; Gurer, Cetin, & Top, 2019; Sakibayev, 2019; Bakare & Orji, 2019; Yao, 2020; Benitez, 2020) and Olakulehim (2007)

that ICTs application (computer usage) has the advantage of heightening the motivation, helping recall of previous learning, provide new instructional stimuli, activating the learners response, providing systematic and steady feedback on any learning content.

The findings from research question two in table 2 shows that most students have not used computer in their School. This is a draw back for the actualization of the national policy implementation guidelines for ICT in education whose vision is an Education that is universally accessible, empowering, inclusive and enriching. (National implementation guidelines for ICT in Education (2019).

The findings from research question 3 in table 3 revealed that students are nervous in using the computer and this will affect their attitude towards the use of computer. This is line with the study by (Arigbabu, 2009) that computer anxiety escalates struggle with computer and indicates hurdle to a person's connection with computers.

The findings from research four in table 4 is in consonance with the report by (Stephen, 2013), (Abubakar, 2016) who cited Idoko and Ademu (2019) who discovered that availability of ICT is often one of the most critical impediments to technology (computer) acceptance and integration in teaching and learning. The unavailability of computer is also a major problem which is in line with the survey carried out by (yesuf, 2005) who revealed that only one school, out of ten has computer sets. It is worth noting that none of the ten schools has internet facility.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

This chapter is concerned with the summary, conclusion and recommendation of the research done on computer usage and students' academic performance.

Summary

The study examined the issue of computer usage and its influence on the academic performance of the senior secondary students of Egor LGA of Edo state. The research went further to identify the frequency of influence of computer usage on students' academic performance, the extent of the use of computer in secondary schools, students' attitude towards using the computer, and factors hindering the use of computer in schools. The literature review of the work also had a detailed review of the concept of computer usage based on past research of other scholars. The results have so far demonstrated that the use of computer contributes immensely to the academic performances of students. Finally, to ensure that equal opportunity was given to the students, the research was conducted using a survey kind of research which gives room for effective studying of the populations. Samples were taken from senior secondary one and two S.S.1 and S.S.2) from both private and public schools. Simple frequency and percentage were used for analysing data. The major findings include computer makes learning easier, computer is not used every day in schools, students feel nervous using the computer and non-availability of computer for students use.

Research Findings

From the study one can say that the use of computer increases student's motivation to study and computer makes learning easy and also makes lessons more interesting.

The study also reveals that computers are not used every day in senior secondary schools in Egor L.G.A. of Edo State and computer has never been used in some schools.

The study also reveals that students feel nervous when using the computer and also most students find it difficult to operate the computer.

The study also shows that non-availability of computer and lack of ICT facilities are major factors that hinder the use of computer

Conclusion

Computer is being used everywhere of human activities. It's importance in the teaching and learning process cannot be over emphasized. There is need for secondary School students to be exposed to the use of computers as this will help them to meet with global challenges in a changing world like ours. It will also help them in their cognitive and decision-making abilities. Government and relevant stake holders should ensure the use and availability of computers in our secondary Schools.

Recommendations

Based on the findings of the study the following recommendations were made:

- Computer usage should be integrated into secondary Schools in the teaching and learning process since it has influence on students' academic performance.

- Public and privat schools should be provided and equipped with the necessary information and communication technology (ICT) facilities and computers so that students can use those facilities as much as they want.
- Teachers should help students to overcome the anxiety and nervousness associated with the use of computer by encouraging them to engage in educational games and appropriate software.
- Government at all levels should ensure that they support schools in acquiring computers and ICT facilities so it can be readily available.
- Curriculum planners should make computer science a compulsory subject in the secondary school curriculum so that students can familiarize themselves with the use of computer.

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APPENDIX

UNIVERSITY OF BENIN

FACULTY OF EDUCATION

DEPARTMENT OF CURRICULUM AND INSTTRUCTIONAL TECHNOLOGY

QUESTIONNAIRE

Dear Respondent,

The purpose of this survey is to examine computer usage and students' academic performance in secondary schools in Egor LG.A of Edo State. The information provided will be kept confidential and used only for the research study. Data gathered would be presented in aggregate and no individual respondent would be identified.

Thank you.

INSTRUCTION: Please endeavor to complete the questionnaire by ticking the correct answer(s)

SECTION A: BIO - DATA

- **Gender** Male ☐ Female ☐
- **Class SS1 [ ] SS2 [ ] SS3 [ ]**

SECTION B: COMPUTER USAGE AND STUDENTS ACADEMIC PERFORMANCE

NB: SA – Strongly Agreed A – Agreed D– Disagreed SD – Strongly Disagreed

What is the Influence of using computer on student's academic performance?

S/N	QUESTIONS	SA	A	D	SD
1.	Using computer increases motivation to study				
2.	Computer makes learning easy				
3.	Using computer educational software gives students confidence to broaden their knowledge				
4.	Using computer distract students from learning.				
5.	Computer usage makes lesson more interesting				

What is the extent of the use of computers?

S/N	QUESTIONS	SA	A	D	SD
6.	Computers are used everyday				
7.	Computers are used once a week				
8.	Students use computers during practical				
9.	Computers are never used in my schools				
10.	Computers are used occasionally				

What is the attitude towards the use of computers?

S/N	QUESTIONS	SA	A	D	SD
11.	I feel happy when using the computer				
12.	I feel comfortable using the computer				
13. 14.	I have confidence in using the computer I feel nervous using the computer				
15.	I find it difficult to operate the computer				

What are the factors hindering computer use?

S/N	QUESTIONS	SA	A	D	SD
16.	Non availability of computers				
17.	Students lack computer skills				
18.	Lack of ICT facilities				
19.	No access to computer laboratory				
20.	Inadequate power supply				