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Enhancement of Students' Academic Performance Through the Use of Information and Communication Technology (ICT) in Yabatech

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ABSTRACT
Studies on students' academic performance are of note to several researchers because products of academic institutions often form the raw materials in developing experts in various fields. The aim of such studies generally gears towards how to improve on the level of performance and consequently help nationsto make progress in all fronts - science, technology, commerce, education and others. Though so much work has been done by researchers to propose ways of improving students' academic performance, the use of commonly available information communication technological tools such as the mobile/smart phone has not been sufficiently explored. This study examines the use of Informationand Communication Technology such as mobile/smart phones among tertiary institution students, availability, adequacy and use of ICT inYaba College of Technology (Yabatech) Students as case study. Three hundred and twenty two (322) questionnaires were administered directly to students. The data obtained showed that 54% of the respondents use laptops,52.9% use projectors and 52% use email, mobile phones for academic purposes. It was discovered that Computer, Internet facilities,E-mail account and Projectors are available for teaching and learning in Yabatech.The ANOVA test showed that the use of ICT in teaching and learning positively influences the academic performance of students and inculcates sustained interest among students. The results of this research demand for a better and a redirected usage of information and communication technological tools such as mobile phones by students to enhance their academic performance. We recommend that ICTs should be a working tool in our school system and effort should be made by all stakeholders to ensure that necessary tools (both hard and soft wares) be made available in our schools.

KEYWORDS: *Enhancement, academic performance, mobile/smart phones, ICT*

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I. INTRODUCTION

Education systems throughout the world are adopting the use of ICT which has brought tremendous progress in the field of education and a revolution in teaching-learning process. It has brought major changes in the roles being played by teachers and learners. In Nigeria, I.C.T in education is being embraced and incorporated into our academic learning system. Education is an instrument for national development, but if it is to achieve its national objective in our country, emphasis must be made regarding availability of I.C.T. and its full implementation and utilization.Students' success ratio in academic institutions is often used to determine progress in learning. Though, "there is no obvious definition of academic success" (BeyrambibiBaya& Hamid Salehiniya, 2019), neither is there any single factor that determines academic success, the need to continually enhance academic performance as one of the major determining factors of achieving academic success cannot be over-emphasized. Several factors determine how students learn; students' personal interest in a course or subject of study, attitudes to learning, the learning environment, available instructional materials and tools for learning, attitudes and methods adopted by the instructor/lecturer etc, all have their roles to play in how students assimilate what they learn and consequently their performance.

Researchers, lecturers/instructors, institutions of learning and the students are all involved in the quest to improve and enhance academic performance. MarigaGoga, Shade Kuyoro&NocolaeGoga (2014) posted that students' academic performance in tertiary institutions is a source of great concern and research interest to higher education managements, governments, parents and other stake holders because of the importance of education to national development. Students with high academic performance rate are considered preferred students by intuitions, while institutions producing students with high academic performance ratios are considered better institutions to attend by admission seekers. Institutions where students graduate with high

grades boast of desirable goodwill among their peers, hence every institution of learning and concerned students all seek for ways to improve academic performance in order to earn or retain their goodwill and ratings. Also, one of the major determinants of continual accreditation or eligibility to continue to run an academic programme of higher institutions of learning by various regulatory bodies like the National Board for Technical Education (NBTE), National University Commission (NUC), and other professional bodies is based on students' academic performance often referred to as "success ratio".

In the industries, employers often place some restrictions on who can apply for certain jobs and posts based on applicants' graduating grades which is essentially based on academic performance (The Guardian, 2020). Academic performance therefore serves as one of the major determinant of securing a blue-chip job and a good economic life desired by every graduate. Job placement in turn often open doors of opportunities for professional practice and advanced trainings that breed experts in various fields, a fulfilled career-life, and human resources needed for national development.

In the light of the above, the desire for improved or enhanced academic performance will continue to be an age-long research interest for researchers and age-long pursuit for students in various institutions of learning. The focus of this work therefore is to explore the great potentials inherent in mobile devices/cell phones possessed and carried about by almost every single student in our higher institutions. Okikiola, Akinsola, Sokunbi&Oladiboye (2017), stated that "it is impossible not to notice that cell phones are everywhere these days and that leaving home without them make some people feel like leaving home without their shoes. This fact is particularly true of students in our higher institutions of learning.

1.1 Mobile phones, Cell Phones, Smart Phones

The invention of Telephone was credited to Alexander Graham Bell in 1876 (History.com,2019). Since then, there has been a tremendous growth and development in communication technology via the telephone. Mobile phones came to be through the efforts of two engineers working at AT&T Bell Laboratories; Douglas H. Ring and William Rae Young Alexis C. Madrigal, (2011). These engineers developed cells for mobile phone base stations which gave birth to what is known as cell phone or cellular phone. It was Japan that actually lunched the first commercial cellular network now referred to as "1G" which only allow taxi drivers and emergency stations to communicate like a two-way radio (TigerMobiles.com,2019). Cell phones rely on cellular technology.

Originally, a mobile phone is a device only used to make and receive calls. However, since cell phones are mobile, they are later referred to as Mobile Phones.

In its most basic form, a cell phone (Mobile Phone) is supported by a battery that provides power source, an input keypad that allows a user to interact with it, phone services that allows the user to make and receive calls, send and receive text messages, and sometimes minimal camera features (CoolBlue, 2020).

As technology grew, smart phones emerged with super abundant functionalities; ability to make and receive phone calls with option to record conversations and switch between loud speaker and ear piece mode, better camera features, touch screen, internet access with features such as emails, video/audio sharing, downloading and running of mobile apps, access to social media platforms via the internet. All these functionalities make Smart Phone readily available tools in deploying academic content with audio/visual features.

Having discovered through observations and research questionnaires that majority of students in our tertiary institutions, (using Yaba College of Technology (Yabatech), Lagos, as case study) possess smart phones, this paper proposes students' academic performance enhancements through the use of smart phones. Already, there is generally a degree of addictions to mobile phones among students, delivering academic content through these devices could be a better way of arousing their dwindling interest in academic work.

1.2 Objectives of Study

The objectives of this study is to:

i) To identify the various Information and Communication Technology (ICT) materials available in Yaba College of Technology.

ii) To determine the adequacy and accessibility of the Information and Communication Technology (ICT) materials in Yaba College of Technology.

iii) To explore how the use of Information and Communication Technology (ICT) could enhance students' academic performance in Yaba College of Technology.

1.3 Problem Statement

The average time spent on mobile phones for various uses by higher institution students on daily basis is alarming. This, they do to the detriment of their academic pursuit on campuses. Diverting the use of mobile phone from such less profitable uses to academic purposes could bring a noticeable turn around improvement in academic performance.

1.4 Significance of Study

This study would be of immense benefit in offering valuable insights to the researchers in education who are constantly searching for means to improve learning process and academic performance. Also, the result of this research will clearly show the impact the right use of ICT materials make on the achievements of students

II. LITERATURE REVIEW OF RELATED WORKS

Academic performance can be considered as the degree of expression of knowledge acquired by students through learning. It is a measure of the feedback received from students after several learning exercises. Reviewed literature showed that several researchers have identified varied factors as determinants of students' academic performance and suggested various approaches to enhance performance; IrfanMushtaq&Shabana Nawaz Khan (2012) identified communication, learning facilities, proper guidance and family stress as determinants of students' academic performance. The study went further to propose that to enhance students' academic performance proper learning facilities, learning environment, students' communication skills be improved, and students should be properly guided by parents and teachers. Using a multi-dimensional methodological approach, Maria et al. (2015), identified students' family background factors such as mother and father's educational qualification, sponsor, family background etc and previous academic achievements as determinants of students' academic performance. Katherine Dix (2013) linked improvement in academic performance to implementation quality of academic programmes. While quality of implementation is essential, interest of learners to receive what is being offered is a key factor in enhancing performance. The manifested interest of students in the use of mobile phones and the availability of these phones with them 24/7 suggest that academic materials can be readily available to them anywhere and everywhere. Azwa, A.A, Nur H.I, &Fadhilah A (2013) opined that the use of data mining technique to discover possible parameters that contributed to students' past academic success, using some current popular data mining methods to aid predictions, and the application of trusted and powerful data mining analytical tools to provide right information will help decision making that will lead to better academic performance by students. The observed limitation here is that enhancing academic performance would demand contributions and participation by the two principal stakeholders which are the lecturers/instructors and the students. A one-sided effort will not yield the desired improvement. In a survey conducted by Pauline ChinasaIroeze (2013), it was discovered that lack of interest in the course and classes, non-availability of required tools, lack of laboratory space, absenteeism from lectures, amongst others were responsible for students' poor performance in the course under review – Cataloguing and Classification. The perceived interest of students in the use of smart phone is high. It is a readily available tool (device) that can be used outside class setting for learning. Smart phones contain different apps that can be used to simulate practical exercises without having to go the traditional laboratory. For Example, computer science students now have various programming compiler apps that allow them to write, debug and test run their written programs (source code) on their smart phones without having to get to the computer laboratory or own a lap top. In fact, students now test run sample programs written by the lecturer while in class without having to go to the lab. Elvis MunyaradziGanyaupfu, (2013), investigated the effectiveness of teaching methods in students' academic performance enhancement. Three teaching methods (teacher-student interactive method, student-centered method, and teacher-centered method) were applied out of which teacher-student interactive method was discovered to be the method. The paper blamed the poor academic performance of students on poor teaching methods by the teachers. This however, is not the whole truth as students to have a great role to play in enhancing their academic performance.

In most of the papers reviewed above, little or nothing was mentioned on the application of modern technological tools like mobile/smart phones to aid students' academic performance. However, several recent works have focused on the use of social media to enhance students' academic performance. Social media is defined as "forms of electronic communication (as Web sites for social networking and blogging) through which users create online communities to share information, ideas, personal messages, and other content (as videos)." (The Merriam-Webster dictionary). The examples given in this definition has since been expanded to cover several major social networking platforms such as Facebook, Twitter, Instagram, YouTube, whatsApp, Telegram etc. Social media platforms permit account holders to engage in two-way communication. It also allow network groups to be created and encourage sharing of text messages, audio, video, files and other media content to be shared. Most social media platforms offer electronics tools that aid the dissemination of information to a large number of contacts real time. It is the combination of these multi-faced features that make social media platform a ready tool for the discharge of academic content to students.

Many researchers have concentrated largely on the use of social media in seeking an effective technological tool to enhance academic performance among students. A model was proposed by Samantha Samarasinghe&ThamaliChandrasiri (2019) that integrates Technology Acceptance Model (TAM), Theory of Planned Behaviour (TPB) and IS Success Model to test the impact of social media on students' academic performance. However, a work done earlier "revealed that the use of social media had affected academic

performance of the respondents negatively". The work further showed that most respondents use the social media sites to chat than for academic purpose (M. Owusu-Acheaw& Agatha Gifty Larson, 2015). Our major aim in this work is to fill the observed gap by re-focusing students to a more profitable use of their mobile phones (not just social media) to enhance academic performance rather than time-wasting activity of chatting on social media that leaves negative impact on their academics. Motivation for our work is further derived from a pilot study conducted by WaleedMugahed Al-rahmi, MohdShahizanOthman & Mahdi Alhaji Musa (2014) which showed "that social media affects positively and significantly collaborative learning with interaction with peers, interaction with supervisor, engagement, perceived ease of use, and perceived usefulness". This shows that if students' addiction to the use of social media is focused on academic learning, a better performance in academics works should be expected. Study has also shown that excessive use of social media affects the reading culture of tertiary institution students (DukperBawaKojo,BaffourOheneAgyekum, Beatrice Arthur, 2018). This would have had a less counter-productive effect if the content of engagements were to be academic work. It would therefore be a wiser approach by authorities to ensure that electronic format of academic materials at all levels and disciplines are made available for deployment on various internet platforms for easy access by students; reaching them anywhere they are.

Going beyond social media usage, some researchers have based their work on a more elaborate approach of using the mobile phone, rather than focusing only on social media which is just one of the various functionalities of a mobile phone. We advocate for the use of smart phone with all the available functionalities. An elaborate investigation of students' use of mobile phones while studying was carried out by Md. MoyazzemHossain (2019). This study explored the various uses of mobile phones students engage in while studying. These include internet access, sms, voice calls, mms, camera usage, video recording, use of calendar, calculator, games, organizer, radio and audio recording. Since the respondents engage in all these activities while studying, serious abuse of the mobile phone is expected as shown by the result of the finding. (Nsisong A. Udoh 2015) and (KőrösiGábor&EszteleckiPéter, 2015) both advocated for the use of mobile phones in education. While acknowledging the side effects of abuse by students, they argued that the use of educational materials like papers and pens could be abused through littering the classrooms with torn papers or using the pen to poke someone's eye their usage have been accommodate in education.

Since the use of smart phones has become an integral part of our lives with the youthful segment of the society who are mostly students being the major users, efforts have to be geared towards turning them into profitable weapons to enhance academic performance. After data analysis of this work, our concluding section shall try to explore various platforms through which academic contents can be deployed to the students.

III. METHODOLOGY

3.1 Research Design

Descriptive and inferential survey design was used to establish the relationship between the availability, application, utilisation of Information and Communication Technology (ICT) materials to enhance students' academic performancein Yaba College of Technology.

3.4 Population of study

All students in YabaCollege of Technology.

3.5 Sampling, Procedure and Sample size

A sample size determination was done for the sample size to be determined. Stratified sampling technique was applied to select the select the students and a sample of 322 was calculated.

3.6 Data Collection, Instrument and Validation

The data was collected using questionnaires as instrument of primary data collection. To test the content validity of the instrument, the researcher consulted with a Statistician who made necessary corrections and approved the content for administration.

3.7 Method of Data Analysis

The questions were structured targeting students in Yaba College of Technology. Then data were organized under different variables and frequencies were established. The results were then presented in the frequency tables showing frequency and percentages. The hypotheses were tested using ANOVA.

IV. DATA ANALYSIS

4.1 PREAMBLE

The purpose of this chapter is to show the responses of the respondents in a tabular form, assess the research objectives and the hypotheses for the deductions to be made.

4.2 Analysis of Respondents' Bio-data

Table 4.1 Respondents' Bio-Data

Gender of Respondent	**Frequency**	**Percent (%)**
Male	157	48.8
Female	165	51.2
Total	**322**	**100.0**
Religion of Respondent		
Christianity	257	79.8
Islamic	64	19.9
Traditional	1	0.3
Total	**322**	**100.0**
Marital Status of Respondent		
Single	283	87.9
Married	38	11.8
Divorced	1	3
Total	**322**	**100.0**
Age of Respondent		
<18	71	22
19-35	246	76.4
>35	5	1.6
Total	**322**	**100.0**
Ethnicity of Respondent		
Yoruba	201	62.4
Hausa	16	5
Others	105	**32.6**
Total	**322**	**100.0**

Source: Administered Questionnaire

Table 4.1describes the bio data of the respondents. We have females (51.2%) while the males constitute (48.8%) .

The table also shows the religion of the respondents with the majority (79.8%) being Christians while Muslimswere 19.9% and 0.3 % were traditionalists.The table in turn shows the marital status of the respondents. It showed that 87.9% of the respondents are singles, 11.8% are married while 1% of the respondent was divorced. It means that most of the respondents were students who were singles. Also, respondents with the age brackets of 19-35 years are 76.4%, and below 18 years are 22%, while 35 years and above are 1.6% which shows that most of the respondents under the age bracket of 19-35 years of age.

4.3 Analysis Based on Research Questions

The research question one: Sight to examine at which extent are the ICT materials available in learning statistics in Yabatech

4..3.1:Availability of ICT Materials in learning statistics in YCT?

Table 4.2:

ICT materials	Available %	Not available %	**Total**
Computer	202 (62.7)	120 (37.3)	**322**
Internet facilities	202 (62.7)	120 (37.3)	**322**
E-mail account	196 (60.9)	126 (39.1)	**322**
Projectors	177 (55)	145 (45)	**322**
Slides	144 (54)	178 (55)	**322**
Satellite dish	131 (40.5)	190 (58.9)	**322**

Source: Administered Questionnaire, 2017

According to the table4.2, the research question one shows that Computer , Internet facilities , E-mail account and Projectors are available for learning of Statistics, it also shown that Slides and Satellite dish are Not available for learning statistics at Yaba college of technology.

The research questiontwo :Sight to examine the level of utilizing ICT statistical materials in Yaba college of Technology.

4..3.2: Extent of Utilization of ICT Materials

Table 4.3

S/N	STATEMENTS	5 %	4 %	3 %	2 %	1 %	Total	Mean	Remark
1	Laptop is used for lecture preparation	127 (39.4)	48 (14.9)	28 (8.7)	49 (15.2)	70 (21.7)	**322**	3.35	Utilised
2	Projectors are used during lecture	110 (37.2)	57 (17.7)	23 (7.1)	52 (16.1)	79 (24.5)	**322**	3.23	Utilised
3	Subject materials are provided online for students	99 (30.5)	69 (21.5)	23 (7.2)	56 (17.4)	74 (23.1)	**322**	3.20	Utilised
4	Students and lecturers communicate through e-mail	90 (28)	65 (20.2)	23 (7.1)	49 (15.2)	95 (29.5)	**322**	3.02	Utilised

Source: Administered Questionnaire, 2017

KEY : (5,4,3,2,1) see appendix

According to the table 4.3, 54% of the respondents said that utilization of Laptop is used for lecture preparation, 54.9% of the respondents said that utilization of Projectors are used during lecture, 52% of the respondents said that utilization of Subject materials are provided online for students and 48.2% of the respondents said that utilization of mail for communication by students and lecturer.

The research question three: Examine the problems faced by students in application of ICT materials.

Key: Strongly Agree (SA), Agree (A), Undecided (U), Disagree (D) and Strongly Disagree (SD)

4.3.3 :Problems faced when using ICT Materials

Table 4.4:

S/N	STATEMENTS	SA %	A %	U %	D %	SD %	Total	Mean	Remark
1	Lack of funds hinders school from embracing ICT	91 (28.3)	90 (28)	30(9.3)	23 (7.1)	87 (27)	**322**	3.23	Agree
2	ICT makes lessons more difficult	49 (13.4)	50 (15.5)	27 (8.4)	62 (19.3)	139 (43.2)	**322**	2.36	Agree
3	Time constraint in using ICT	72 (22.4)	81 (25.2)	57 (17.7)	53 (16.5)	56 (17.4)	**322**	3.19	Agree
4	High cost of ICT resources	95 (29.5)	122 (37.9)	32(9.9)	34 (10.6)	35 (10.9)	**322**	3.65	Agree
5	Lack of students ICT background	89 (27.6)	121 (37.6)	41 (12.7)	33 (10.2)	38 (11.8)	**322**	3.59	Agree

Source: Administered Questionnaire, 2017

Majority (58%) of students who responded agreed to the research question that Interactive white board or projectors are functional enough to display mathematical graphs, symbols and models during teaching and learning process, 80% agree that There is adequate supply of computers and other ICT materials for students and teachers during classroom interaction , 67% agree that Content materials downloaded from educational resource websites are adequate enough for teaching and learning of Mathematics , 57% agree that Teachers have sufficient skills needed for operating and manipulating ICT materials during classroom interaction while 85% agree that Teachers have high interest in the use of ICT.

Research Question four: Examine the benefits of using ICT materials in learning of statistics.

4.3.4: Benefits of using ICT materials

Table 4.5:

S/N	STATEMENTS	SA %	A %	U %	D %	SD %	Total	Mean	Remark
1	ICT makes it easy to think of new ideas	192 (59.6)	105 (32.6)	7 (2.2)	5 (1.6)	13 (4)	**322**	4.42	Agree
2	ICT enhances quality of work of students	177 (55)	119 (37)	11 (4.0)	3 (0.9)	10 (3.1)	**322**	4.41	Agree
3	The use of ICT materials makes learning more interesting	181 (56.2)	113 (35.1)	13 (4)	6 (1.9)	9 (2.8)	**322**	4.40	Agree

4	ICT enables students to acquire knowledge faster and easier	72 (22.4)	81 (25.2)	57 (17.7)	53 (16.5)	56 (17.4)	**322**	3.19	Agree
5	ICT enables students to have the availability to access and apply information in the science class.	89 (27.6)	121 (37.6)	41 (12.7)	33 (10.2)	38 (11.8)	**322**	3.59	Agree

Source: Administered Questionnaire, 2017

According to the table4.5, majority (92.2%) of the respondents agreed to the research question that ICT makes it easy to think of new ideas, 92% agreed ICT enhances quality of work of students, 65.2% agreed that ICT enables students to acquire knowledge faster and easier.

4.3 Tests for Hypothesis

Table 4.5: ANOVA Test on the Impact of ICT Materials on Students' Achievements in

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
ICT makes it easy to think of new ideas	Between Groups	166.645	4	41.661	117.971	.000
	Within Groups	111.242	315	.353		
	Total	277.888	319			
The use of ICT materials makes learning more interesting	Between Groups	62.807	4	15.702	27.120	.000
	Within Groups	182.380	315	.579		
	Total	245.188	319			

Source: SPSS output

Interpretation:-The table above 4.5 shows the ANOVA table i.e. F-test for impact of ICT materials in the students' achievements in statistics, it shows that the use of ICT in learning of statistics positively influences their view and inculcates sustained interest in the subject is statistically significant since their F-test is 117.971 and 27.120 respectively. We conclude that there is significant impact of ICT materials on students' achievements.

4.4 Discussion of the findings

Majority of the respondents are female with (51.2%) while the male constitute (48.8%). The Religion of the respondents with the majority (79.8%) are Christianity while Islamic are 19.9% and 0.3 % are traditional .This implies that most of the respondents are Christianity, 87.9% of the respondents were singles, 11.8% were married while 1% of the respondent was divorced. This implies that most of the respondents were students who were singles. Majority of the respondents with the age brackets of 19-35 years are 76.4%, and below 18 years are 22%, 35 years and above are 1.6% This shows that most of the respondents under the age bracket of 19-35 years of age.

The research question one shows that Computer , Internet facilities , E-mail account and Projectors are available in Yabatech. 54% of the respondents said that Laptops are used for lecture preparation, 54.9% of the respondents said that Projectors are used during lecture, 52% of the respondents said that Subject materials are provided online for students and 48.2% of the respondents said that utilization of mail for communication by students and lecturer. Fifty eight percent of the respondents agreed to the research question that Interactive white board or projectors are functional enough to display mathematical graphs, symbols and models during teaching and learning process, 80% agree that there is adequate supply of computers and other ICT materials for students and teachers during classroom interaction , 67% agree that Content materials downloaded from educational resource websites are adequate enough for teaching and learning of Mathematics , 57% agree that Teachers have sufficient skills needed for operating and manipulating ICT materials during classroom interaction while 85% agree that Teachers have high interest in the use of ICT.It could be concluded that ICT materials were adequate in YCT. 92.2% of the respondents agreed that ICT makes it easy to think of new ideas, 92% agreedICT enhances quality of work of students, 65.2% agreed that ICT enables students to acquire knowledge faster and easier while 41% agreed that ICT enables students to have the availability to access and apply information in the science class.

This justify accordingly to Terwase (1994) notes, the use of ICT materials can increase concreteness, clarity, and effectiveness of ideas and skills being transferred by the lecturer. The implication of this being that, ICT materials enable lecturer not only to teach but also give students the opportunity to look, listen and learn faster and better. In addition to what the learner achieve at a fast rate, the learner adopts quickly and is capable to learn more thoroughly as well as remember longer

The ANOVA table i.e. F-test for impact of ICT materials in the students' achievements showed that: use of ICT in teaching and learning positively influences students' academic performance and inculcates sustained interest in the subjects.

V. FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Findings of the study.

The findings reveal that there is availability of Information and Communication Technology (ICT) statistical materials at Department of statistics Yaba college of technology.

1. The level of availability of ICT statistical materials at Department of statistics Yabacollege of technology were more.
2. The ICT material are adequate for school to manage were inadequate ICT facilities, frequent electricity interruptions and poor attitudes to ICT use.
3. The accessibility of ICT materials is limited to the students. Students perceived that use of ICT improves their ' learning.
4. There was a significant impact of ICT statistical materials to students' achievements in statistics.

5.2 Conclusion

This study concludes that ICT materials are available and accessiblefor teaching and learning in Yaba College of Technology. The use of ICTin Yaba College of Technology has a positive impact on management, teaching, learning, research and students' academic performance.

Recommendations

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

.ICTs should be a working tool in our school system and effort should be made by all stakeholders to ensure that necessary tools (both hard and soft wares) be made available in our schools. In fact, the use of ICT tools can greatly affect and improve teaching – learning and also improvement of the management of the tertiary institution. The exposure of school administrators to the use and impact of ICTs in tertiary institution will greatly lead to effective and efficient management of the tertiary institution in Nigeria.

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