INCORPORATION OF ICT INTO EDUCATION: THE REQUIREMENT FOR EMERGING NATIONS TO COORDINATE ICT IN THE EDUCATING AND LEARNING OF MATHEMATICS SUCCESSFULLY

Odiri E. ONOSHAKPOKAIYE, PhD.,
Institute of Education,
Delta State University, Abraka, Delta State, Nigeria.
onos68@yahoo.ca

Abstract: *The world is growing technologically in various circles of life; education is not left out. Countries are attempting to get together with this turn of events. In the education sector, many information communication technology devices have been invented to supplement the normal customary technique for education. Numerous soft wares can be applied in educating/learning. These ICT tools are utilized in the instructing and studying of mathematics that make it clearer and more practical for students to comprehend the concepts of mathematics. Regardless the benefits of technology to the teaching of mathematics, a few nations are yet to incorporate it in their schools most particularly the developing nations. Many developed nations have incorporated the ICT into their schooling however the vast majority of the developing nations are as yet lingering behind; it might be because of their administration's disregard for the significance of the ICT use. The study reviews some related literature on ICT use. The study looks at the meaning of ICT, ICT use and mathematics learning, ICT use and developing countries' institutions, and the benefit of ICT usage and students' performance in mathematics.*

Keywords: *ICT; education, mathematics.*

Introduction

Many developing countries, for example, Nigeria is been impacted by science and Technology. It is vital for the total acknowledgement of science and technology nations' fast development, be it economical or technological. The numerous issues educators experience in mathematics teaching and learning today at all levels of education should be completely handled; if not, the acknowledgement of this

technology will be a futile exercise. One method to realize this science and technology is to improve mathematics teaching and learning in our different schools, most particularly at the elementary and secondary schools' levels.

According to Batiku (2002) cited in Bature (2016), mathematics is a significant subject or tool required in this current technology development era. Babalola (1991) cited in Bature (2016) consider mathematics as the fundamental and central instrument in gaining scientific and technological knowledge, and sound basic and scientific thinking for our day to day existence or living. Anibueze (2015) believed that mathematics assumes crucial parts in acquiring technological and scientific knowledge. The utilization of ICT is vital in mathematics; along these lines there is a need to further develop mathematics teaching in our schools for successful teaching and study of the subject and advancement of our country.

One of the core subjects offered at the elementary level of every nation's educational system is Mathematics. It is made compulsory as a result of its usefulness to our everyday living. In nation such as Nigeria, mathematics is compulsory at the elementary, secondary levels and a prerequisite to university education. Due to its essential nature, the government is trying to ensure high-quality mathematics education. The administration has made different attempts previously to ensure mathematics achievement in schools is improved. Despite the effort of the government, students' performance is still very low. Furthermore, this is shown in students' interest and their attitude toward mathematics learning and the poor performance of students in secondary school. The significance of mathematics to the economic and developmental growth of every nation cannot be overlooked.

What is ICT?

The term ICT and which implies Information, Communication and Technology is coined from two terms that imply, Information Technology, Communication Technology. Information is a design discipline, logical, mechanical, and procedure in administration used to deal with data. Keong, Sharaf and Daniel (2005) referred to Information Communication Technology as "an engine of innovation in education". The ICT is explained as the storage, information dissemination and management of different resources and technical tool sets acceptable in the ICTS.

Ameen, Adeniji and Abdullahi (2019) consider the ICT to be an instrument that achieves confidence in the educational system. The ICT is comprised of technology resources and devices utilized for relationship and control of information (Kaware & Sain, 2015, Zakaria

& Khalid, 2016). Prytherch (2000) sees ICTs as organizations that make arrangements for picking up, preparing amazing open doors, and instructing through advanced content conveyance. ICT is exceptionally indispensable to changing the Mathematics teaching-learning process by adding a flavour of vitality to education classroom environments. The ICT apparatuses involve computerized gadgets and electronic gadgets like the web, PCs, and other interactive media innovations. The ongoing ICT computerized are comprised of various conveyance frameworks, the hardware and software. There are different compact ICT instruments utilized in teaching mathematics, similar to automated charting, realistic mini-computers, data sets, particular programming, accounting sheets, and so on.

ICT use and teaching/learning

In the world over, computers as a technology tool are now becoming very vital for our everyday use in our schools. For the ICT technology to be used in the schools it lies on the exposure of teachers and their students. Students having similar ICT technology use depend on their exposure (Gachinu, 2014). ICT incorporation into education has given rise to numerous online educational resources, knowledge exchange, and connections between learning communities (Ferraro, 2018, Konnova, Lipagina, Postovalova, Rylov & Stepanyan, 2019, Mora, Signes-Pont, Fuster-Guillo & Pertegal-Felices, 2020). According to Yusuf (2005) cited in Ameen et al, (2019), ICT has greatly affected learning-teaching and every facet of the system of education.

The ICT assists in building a favorable learning atmosphere for the students and make them acquire knowledge in a constructive, self-directed and active way (Volman & Van Eck, 2001, Ameen et al, 2019). Gachinu (2014) research findings in America revealed that ICT has the force to dramatically remake American schools, raising its performance standards while potentially at the same time cutting costs. The students' ICT use helps or enables them to personalize learning that can result in stronger output, empower and assist them in pursuing their knowledge, provide effective learning, enhance the content and rich information devices that are not restrained to one place.

Students, who are raised in an ICT environment, may probably utilize the web at whatever point they are confronted with a difficult problem and utilizing ICT in various ways to acquire and construct knowledge, solve complex math problems and acquire different skills (Kang, Heo, & Kim, 2011, Gachinu, 2014). Despite the ICT's importance to education, it does not replace the existing teaching methods; instead, it is utilized to make learning-teaching more accurate and meaningful. ICT usage has become more vital in educational institutions because it

helps to build up a conducive, better environment for teaching-learning (Gabare, Gabarre, Din, Shah & Karim, 2014, Daud & Khalid, 2014, Zakaria & Khalid, 2016). This can be found in our school and the library. When the students are taught to use a computer to find a solution to a problem, it helps them work in collaborative groups or apply the problem-solving process to develop the solution.

The ICT develop students' communication, problem-solving skills and lifelong mathematics learning (Voogt, 2003, Ameen et al, 2019). The technology application in education assists in implementing active methodologies and eliminates certain space-time obstacles in the process of teaching-learning (Sánchez-Prieto, Trujillo-Torres, Gómez-García, Gómez-García, 2020). ICT brought about a new type of teaching method that focused on satisfying the individual students' needs and marks leaving the current pedagogy where students have not been well taking care of (Kozma, 1992, Gachinu, 2014). ICT is employed to help change the conventional teaching methods of talking and coping on the instruction board. Instead, it proposes a reason for an education rethink regarding a more current method (White, 2010). The positive ICT impact can be observed through students' academic performance (Alemayehu, Natarajan, 2018, Guillén-Gámez, Mayorga-Fernández, 2020).

The ICT utilization in the mathematics teaching/learning

In recent times, it appears there is a rapid expansion in the use ICT aspect in teaching-learning of mathematics in our schools through computers, video recorders, overhead projectors, internet, calculator, slide projectors, audio-visual materials, printed materials, motion pictures and films, sound etc (Bature,2016). Kelleher (2000), in his study on the recent ICT developments to instruct in schools, observed that the usual classroom teaching method cannot be replaced by ICT. However, rather ICT ought to be a driving force or complement classroom teaching to enhance a more profound comprehension of mathematics concepts and principles that will make mathematics more authentic, motivating, exciting and successful.

Guzel (2011) discovered that the efficient utilization of computers to teach mathematics has made it more effective. Furthermore, Guzel (2011) recommended that there is a need for students and mathematics educators to be acquainted and familiarized themselves with the utilization of ICT devices to promote or make the teaching/learning of mathematics to be viable. The teaching professions have become more complex and challenging because of rapid knowledge expansion that requires new and current technologies. ICTs tools are powerful for mathematics problem-solving, mathematics concept development and

mathematics critical thinking. The ICT prospect will be of great benefit to mathematics teaching but is dependent on some factors, which include mathematics teachers' perceptions about ICT skills, mathematics teachers' proficiency in ICT usage and attitudes of students toward the ICT contribution to learning mathematics.

The ICT brought many changes to mathematics education in this 21st century. The application of this current ICT technology's potential benefits to education is that, it promotes or enhances and makes mathematics teaching more effective (Skinner & Preece, 2003, Gachinu, 2014). The ICT utilization by teachers, teaching mathematics implies that their attitude toward technology is positive. Effective technology use has simplified mathematics works or tasks significantly. The ICT motivates the students' in mathematics learning and enhances collaborative work among students (Griffith, Hagan, Heymann, Heflin & Bagner, 2020, Dalby, 2019, Andersen, Beuchert, Nielsen & Thomsen, 2020, Mikropoulos, 2018).

The ICT tools usage in mathematics teaching helps students understand better and give fast bits of knowledge into the mathematical concepts. It supports the mathematics educators when instructing their students in designing, producing their knowledge presentations, and equipping them with learning experiences. The ICT application gives the students a quick comprehension of the mathematical concepts by using different available technologies to the mathematics educators designed to match the user characteristics and the required mathematics curriculum tasks (Leask et al., 1999). The total utilization of these technological tools in our school system will improve instructing and learning. It will result in a student's greater comprehension of mathematics instead of mere memorization and struggling to grasp the concepts. The resultant effect of this ICT use will result in a good student's mathematics performance.

ICT use and Mathematics

According to Rahman, Ghazali, and Ismail (2003) cited in Gachinu (2014) on the mathematics teaching using ICT, he linked the ICT uses in three different ways; to them, it is utilized to find solution to problem or as a modeling tool, tools for data analysis and as for integrating mathematics with context. From the research carried out in Uganda and Kenya, it was discovered that teachers of mathematics rarely use ICT to teach mathematics (Kidombo, 2010). The Earlier studies of Polya (1957) cited in Gachinu (2014) indicated that the problem-solving process in mathematics involves four steps: it entails the total comprehension of the problem, seeking a way(plan) or solution, making proper use of this plan and then reflecting or

examining the previous solution. All these four steps required the students' ability and a deeper comprehension of the problem then devise means for solving them. The cognitive ICT tools help foster the mathematics concepts learning and students' problem-solving approaches (Alonso-Garcia, Aznar-Diaz, Caceres-Reche, Trujillo-Torres & Romero-Rodriguez, 2019).

Despite headway of technology, its development and integration into teaching mathematics have been lower than expected (Lavicza, Prodromou, Fenyvesi, Hohenwarter, Juhos, Koren & Diego-Mantecon, 2020). Ameen et al, (2019), in their study on educators and students' ICT tools utilization levels for mathematics learning and teaching in Nigeria. The sample of 170 students and 50 teachers of mathematics were selected randomly from secondary schools. The study instrument was a questionnaire; in analyzing the data Chi-Square and simple percentages were used. Their findings revealed that although both the mathematics teachers and students utilize ICT tools to teach and learn mathematics, but not skilled in utilizing them. This, therefore, indicates that much is likely not to be achieved since they lack the skills. This shows that both educators and students need proper orientation and preparation in the application of ICT for it to be meaningful and successful. It is necessary to properly train the mathematics educators to effectively apply technology in their classroom (Baya'a, Daher & Anabousy, 2019).

The teacher's utilization of ICT tools is influenced by their perception and the training they received (Sánchez-Prieto, Huang, Olmos-Miguelanez, Garcia-Penalvo & Teo, 2019). According to Daniels et al, (2018), ICTs is devices that should be well chosen and appropriately applied by the mathematics teacher. They opined that effective strategy methodology should positively impact students' learning The utilization of mathematical software in secondary schools helps in promoting the practice, establishing collaborative learning environments, assisting students in interpreting relationships among graphs and functions, assisting the students understanding the complex algebra and arithmetic concepts (Çekmez, 2019, Acikgul, Aslaner, 2020, Donnelly-Hermosillo, Gerard & Linn, 2020, Verscha_el, Depaepe & Mevarech, 2019), Technology helps teachers develop abstract mathematics concepts and thereby build the students' prior skills, knowledge, abilities, connect materials to the basic mathematical concepts, take care of common understandings of concepts and introduce them to more progressive concepts (CTLI, 2007, Dirgha, 2017).

The ICT helps mathematics teacher in teaching mathematical concepts, facts, and knowledge and make mathematics understanding more

successful and increase the teachers' and students' capability. It is indispensable in mathematics learning and teaching; the ICT promotes learning and influences mathematics teaching (NCTM, 2000, Dirgha, 2017). The Pedagogical shift of utilizing ICT brought in new teaching approaches to widening the conceptual students understanding, the strategic, procedural fluency and mathematics competency. The ICT makes mathematics teachings better and assists to improve students' achievement (Safdar, Yousuf, Malik, & Behlol, 2011, Gera & Verma, 2012, Dirgha, 2017). Rendall (2001) discovered that ICT assists teachers in building students' logical and arithmetical mathematics skills. Rendall (2001) revealed that ICT helps the teaching to be efficient in improving the students' logic and arithmetical. Karami and Attarn (2013) revealed that including problem-based learning and technology into education effectively promoted teachers' teaching skills and students' knowledge.

The ICT use and students' performance in mathematics

Bature (2016), in his study to determine ICT use as a tool for effective mathematics learning and teaching, used a research survey design and questionnaires as the instrument for the study that was administered to students and teachers. Chi-square and simple percentages were applied for data analyses. His study exposed that when the students used ICT it leads to improved skills in problem-solving and mathematics achievement. Bature (2016) findings revealed that the use of ICT devices enhances students' performance in mathematics and students' mathematics problem-solving. It indicated that when tools of ICT were used, it assists as a motivating force that drives the students to study thereby helping in arousing students' interest in mathematics. Relating to this study, for students' performance to be enhanced, enhance students' skills in problem-solving and mathematics teaching, therefore applying the ICT devices in teaching mathematics should be practical (Bature,2016). The proper utilization of this technology is of great importance, if it is effectively applied to the learning/teaching of mathematics if not there may be no good result, and it will result in a fruitless exercise

Why mathematics teachers should integrate ICT into teaching

With the advent and development of the current technology era, the mathematics educator is encouraged to key into utilizing ICT in his/her teaching as a substitute to conventional teaching methods (Kiflee & Khalid, 2014, Zakaria & Khalid, 2016). This technology called ICT acts as a motivating force for the mathematics teachers to perform their education function, not just learning and instruction tool (Nur &

Hazman, 2006). For instance, ICT applications could assist students to gain different skills and connect them to future needs, like the internet learning processes, Microsoft Word and email (Gabare et al, 2014, Khalid, 2014, Jones, 2011, Zakaria & Khalid, 2016). The ICT devices can be utilized by the mathematics educator to enhance student productivity in low-level tasks, repetitive that involve computation and problem-solving. Apart from being important to the mathematics educators in developing skills of students, it is of great benefit or prerequisite to enhance some higher-level tasks (Newhouse et al., 2002). Teachers of Mathematics who use computers are likely to develop better attitudes in teaching when using computers, which will likely help them, maintain students' interest in the broader range.

ICT application helps mathematics teachers get resources from outside the internet, thus helping them transform teaching. The main reason for applying ICT is to refine, raise the qualities of mathematics teachers' teaching and students' learning (KPM, 2013). The ICT assists in fitting technology to different learning and teaching conditions, whether within the classroom or outside the classroom setting (Norazrena & Khairul Anuar, 2011, Nur & Hazman, 2006). The incorporation of ICT in school could increase teachers' and the student's competency, which lies in global needs by sharing knowledge and skills (Storm, 2011). It also assists increase cooperative learning among students through community practice (Khalid, Joyes, Ellison, & Abdul Karim, 2013, Khalid, Joyes, Ellison & Daud, 2014).

Some mathematics ICT resources

These mathematics ICT resources could be applied in diverse ways, such as data capturing, simulation, digital recording equipment, presentation tools, and computer projection. There are tutorial software applications that present information check learning by the question method and answer, judge responses, and provide feedback while letting them to teach personally (Newhouse et al., 2002). The multimedia and interactive features can assist students to figure out more complicated mathematics concepts like the three-dimension (3D) (Gachinu, 2014). The inclusion of ICT into education or learning environment has been revealed to build learning to be more student-centred, encourage cooperative learning amongst students, and increase teacher-student interaction. Teachers who use ICT devices in their pedagogy are more likely to benefit from progressive reflection and thought (Newhouse, 2002, Gachinu, 2014)).

Gachenga (2007) identified demonstration, assignments, practice and drills as the standard methods applied by the teachers of mathematics when teaching. These particular methods tend to slow down students'

problem-solving cues and creativity; it was discovered that using or having unlimited access to learning technologies usage would be a very vital aspect in teaching abstract mathematics such topics as the 3D geometry which will arouse the student toward good performance (Gachenga 2007, Gachinu,2014). ICT Technology provides teaching/learning tools for mathematics (Ahmad, Hoda & Alahmari, 2020). Some teachers feel that ICT software cannot be functional in mathematics teaching. ICT can be utilized in every subject, mathematics inclusive.

Keong et al, (2005), in their study, stated that 89.5% of mathematics teachers use basic ICT tools when teaching. Furthermore, these basic ICT tools include graphics and visuals, online demonstrations and training software. This exposed that the mathematics teachers' skills in ICT have improved in applying different technology resources in their classroom teaching (WanMohd, 2013). Keong et al. (2005) work also uncovered that 68.5% of mathematics teachers search through internet websites, 44% use email, while in the online forum 7.2% participated in the discussions (Keong et al,2005). These percentages are associated to the teachers' capability to utilize ICT in accessing teaching resources outside textbooks. We say that ICT has turned out to have become a vital means through which the teachers can obtain teaching resources, simulations, information sharing and brainstorming. Microsoft Excel technology aids students carry out problem-solving related to algebra, like equation graphs construction, finding the gradient of a straight-line graph, and simplification of equations.

Some developed ICT software for Mathematics teaching

Some ICT software can be useful in teaching mathematics, whether at the primary or secondary school stages. This software aids and serves as complementary materials for the mathematics teachers during teaching and students' revision in school and outside school. The ICT technology assists students in working their mathematics problem-solving or their assignments at home. Many recent studies have supported that technology has lots of benefits to mathematics teaching/learning (Alonso-Garcia et al, 2019, Fernandes, Rodrigues & Ferreira, 2018).

Zakaria & Khalid (2016) cited Norazrena and Khairul (2011) developed software for educating and learning fractions. It was advanced in light of a model called ADDIE, which means Analysis, Design, Develop, Implement, and Evaluation. The developers of this software carried out their study by using secondary school students. This software focuses on special needs' students and its content is founded on basic fractions concepts, such as addition, subtraction, and

proper fractions. Their results exposed an enhancement in the students' achievements after utilizing the software. It also revealed that the software application reduced the students' cognitive weight during learning owing to its straightforward content with simple illustrations that were explicit. Although this software was purposely developed for students of special needs, it could likewise be effective for students of non-special needs in enhancing their basic knowledge of fractions concepts.

Zakaria and Khalid (2016) cited Neurath and Stephens (2006) in their experimental study using secondary school students. In their study, Microsoft Excel was utilized as a support to teaching in an algebra class. The control group was educated using traditional methods, while the experimental group was engaged in the computer laboratory. Different problems were assigned to the two groups, but those in the experimental group were shown the procedures on how to tackle the problems through Microsoft Excel. Three detailed tests which involve similar questions were shared with both groups. Their findings revealed that the students' interest in the subject was higher, and students' achievement is enhanced slightly in the experimental group. The reason for the improvement may be that the students enjoyed Microsoft Excel utilization for problems solving; hence their overall comprehension of algebra was increased, which went well with technology and computers. The inclusion of ICT into education with digital resources and methodologies has resulted in its development exponentially (Prendes-Espinosa, Garcia-Tudela & Solano-Fernandez, 2020).

The ICT utilization in the developing countries' educational institution

Many developing nations, including Nigeria, are yet to meet up with ICT application in schools; this might be owing to lack of education funding, shortage of qualified ICT skills teachers, ICT resources and be short of infrastructure. Numerous developing nations' educational policies consider ICT and digital competency as very vital in teaching. However, they are yet to spend in training and acquiring technological resources to be applied in education. One method the governments can improve this; making the instructional objectives to be explicit, and enhancing the education quality through the efficient utilization and ease of access to ICT, because it allows students' needs, interests, weaknesses and strengths to drive the course of learning with a teacher overseeing instead of dictating (Rogers, 1995, Gachinu, 2014). From studies, it was revealed that some African countries, Nigeria inclusive, have not fully felt the ICT impact on the educational system, although

the federal government, state government and Education Ministry recognizes the vital function of the ICT in the education of every country, but there is a call for an ICT literate workforce to improve its productivity and involvement in the understanding of the global economy, but they are yet to fully key into it.

If the developing countries' government really recognizes the ICT function in education, they would have increased ICT infrastructure investment and education resources and the ICT in various educational institutions (Morrison, 1998, Gachinu, 2014). Kozma (1992) in his work on the degree of ICT utilized in education observed that while ICT utilized is advancing in developed nations, some developing countries were still lagging in ICT integration into education. Gakuu and Kidombo (2010), in their study, discovered that inclusion of ICT is a policy that is embedded in most private schools. However, these policies are missing in Kenya's public schools then gave an instance of some sampled private schools where they make computer literate a mandatory requirement for seeking a teaching job in their different schools to be qualified. These schools integrated this technology into their schools to attract more students and improve students' performance. These schools recognize the vital nature of technology to education.

Apart from Kenya as a country, it is common for some Nigeria's schools and other developing countries although the government is slow in integrating or providing the ICT resources into public schools, some private schools in these countries try their best to ensure that students and teachers are ICT compliance. The developing nations such as Nigeria and others have not fully recognized the ICT's function in learning/teaching, not knowing that all countries need a workforce that is ICT literate in this current globalized economy to enhance its participation in the knowledge economy (Gachinu, 2014). The federal government and the education ministry assumed that ICT in education is a normal platform to equip countries with ICT abilities for dynamic, rapid and sustainable economic growth, but this is just in theory or paperwork; this is evident in the covid-19 pandemic period, most of these developing countries education system was shut down due to ICT facilities shortage and shortage of qualified staff to operate these ICT technologies where they are available. They were not able to implement or cope with online teaching because most public or government schools lack ICT equipment; even teachers to operate or teach this ICT are not available. Some private schools with ICT equipment succeeded in operating online teaching because they recognize the ICT benefit and make provisions in their different schools.

Failure of any country to integrate or update ICT devices in their education is at severe marginalization risk on the global scene. For them not to be left behind in this technology era, their governments should adopt the ICT in their educational institution. Many private schools have adopted the use of ICT in schools. The ICT inclusion in these private schools was done to attract more students to their schools and boost their student's performance.

The benefits of ICT utilization to mathematics education

Ittigson and Zewe (2003) opined that ICT is an indispensable tool for mathematics teaching/learning. ICT improves the knowledge of students in the basic mathematics concepts and improves the teaching of mathematics in schools. Different researches have been done to evaluate and ascertain the benefits accrued to ICT uses in learning and teaching Mathematics. Mdlongwa (2012) cited in Dirgha (2017), **x**-ray some gains of utilizing ICT to teach and learn mathematics; with the ICT, students can be linked to experts and have access to excellence global resources and learning resources. Students can enhance their knowledge, do standard work, browse the internet to source mathematics materials, get information, thereby making communication to be faster and easier and acquiring more mathematical knowledge or skills that can be applied outside the school or workplace which cannot be obtained elsewhere (Dirgha,2017).

Becta (2003) cited in Keong et al, 2005) listed some advantages of ICT tools utilization in teaching/learning of mathematics as; i) it encourages knowledge sharing and communication ii) it promotes greater collaboration between teachers, students and teachers, and among the students. iii) it encourages positive motivation through rapid and accurate feedback it gives to students; iv) it also assists constructivist pedagogy. Students apply technology in exploring and understanding mathematics concepts (Keong et al, 2005). Goos (2010) stated that digital technology assists students to be efficient and accurate in mathematics learning.

Numerous factors affect the utilization of ICT in instructive practices, such as policy, human resources, infrastructure, technical, hardware and software associated factors. For the incorporation of this technology to be effective, the mathematics educators should be knowledgeable about the existing software used by them; otherwise, it will be the reverse.

Conclusion

Education is very essential; it is the engine of any nation's development. Many nations that have developed economically, socially and technologically today because of the type of education they adopted. Any nation that neglects its education cannot develop. In this recent time, there has been a transformation in the method of teaching and learning in our schools as a result of the emergence of ICT. Many developed countries have integrated ICT into their education system. Most developing countries are yet to assimilate the ICT into their schools, even though they recognize the significance of applying ICT resources. The drawback of these developing countries in including technology in schools may be because of lack of education funding, total neglect of the education sector, shortage of ICT facilities/ infrastructures and shortage of trained staff that are ICT compliance to handle these ICT tools once provided.

From the appraisal of the related literature, we discovered that there are lots of benefits that in applying ICT in teaching and mathematics learning. The ICT devices assist the teachers in explaining those abstract topics and making mathematics concepts to be extra real and meaningful to students for easy comprehension.

For mathematics teaching to be effective in our schools there is a need for the government of every country most especially the developing countries to properly integrate these ICT tools into their school. If the federal, state and those concerned in education sectors want the students' performance in mathematics to be enhanced they should not neglect the full inclusion of ICT in education. Teachers should be trained in the aspect of ICT utilization for effectiveness. Most teachers in the school are not computer literates talk less of utilizing the ICT soft wares.

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