# IMPACT OF TECHNOLOGY ON EDUCATIONAL DEVELOPMENT

**BY**

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## APPROVAL PAGE

This long essay has been carefully supervised and approved as having met the requirement for the award of Post Graduate Diploma in Education (PGDE) of the faculty of education and extension service, Usmanu Danfodiyo University Sokoto, Nigeria.

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# DEDICATION

This project is dedicated to my jewel who always decorates my neck

Sam-Bassey Emmanuel Beloved and my God given pearls Aniekan and Itoro Sam-Bassey you are loved.

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**SAM-BASSEY DEBORAH OYEBOLA (MRS).**

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# ABSTRACT

Essentially, this long essay examines the impact of technology on educational development. The background study covers the area of the long essay's focus, the significance of the study, the need of the study, the scope of the study and definition of terms which forms the chapter one of as the study.

Chapter two examines the impact of technology on education laying emphasis on technology's impact on learning, impact of technology on the education system and the technology's impact on education practices.

Chapter three discussed technology and educational development which is further broken into benefits of technology integration in education as well as the achievement of technology and education so far.

Finally, the chapter four contains the summary, conclusion as well as recommendations proffered on ways and strategies to maximise the use of technology especially in Nigeria so as to have the expected education development.

# CHAPTER ONE

# INTRODUCTION

## 1.1 Background to the study

As the saying goes “Technology is the bedrock of any national development”. Education can be viewed as the tool or vehicle that can hasten up the development as well as the achievement of any programme and activity of any nation that has focus. This implies that any country devoid of education and especially not having a solid back up of a useful and functional technology may become backward, redundant, under developed and as such achieve no goals.

According to ED report on “the cost and effectiveness of educational technology”, it was stated that ‘through the use of advanced computing and telecommunications technology, learning can also be qualitatively different. The process of learning in the classroom can become significantly richer as students have access to new and different types of information, can manipulate it on the computer through graphic displays or controlled experiments in ways never before possible, and can communicate their results and conclusions in a variety of media to their teachers, students in the next classroom, or students around the world. For example, using technology, students can collect and graph real-time weather, environmental, and population’s data from their community use that data to create colour maps and graphs, and then compare these maps to others created by students in other communities. Similarly, instead of reading

about the human circulatory system and seeing textbook pictures depicting blood flow, students can use technology to see blood moving through veins and arteries, watch the process of oxygen entering the bloodstream, and experiment to understand the effects of increased pulse or cholesterol – filled on blood flow"

"We know now – based on decades of use in schools, on findings of hundreds of research studies, and on the everyday experiences of educators students, and their families – that, properly used, technology can enhance the achievement of all students, increase families involvement in their children's schooling , improve teachers skills and knowledge and improve school administration and management.

Evidently the research so far has checked on how technology affects the school learning systems which can be related to student, teachers and so to say the entire management of the school system but not categorically stating the impact it made in developing the educational system which is now the major focus of this research work.

## 1.2 Statement of problem

The aim of this research work is to examine the impact of technology on educational development, therefore it is designed to find solution to questions such as

i. Is technology making impact on education?

ii. How does technology enhance student achievement

iii. How will students and teachers be impacted with the implementation of new technology?

iv. What will the community get out of technology changes?

v. Technology and education, what is the achievement so far?

## 1.3 Purpose of the study

As it has been earlier stated in the background study, it is a clear statement that education can not be separated from technology, they seems to go hand in hand to enhance any useful development. But as the saying goes "that the use is not clearly understood abuse is inevitable". That makes this research work to focus to focus on the tope "Impact of Technology on educational development" so as to point the mind of people to the fact that it is never a waste using technology in education.

## 1.4 Significance of the study

With the daily changes sin the trend of technology which to some extent is making education a but complicated (so to say) and to some people some how expensive, it will not be appreciated by the populace if there's no research works to bring out the value and worth of the contributions of technology to the developmental process of the entire educational system. With a better light shown on the contributions of technology on better education, the readers of this research work will understood and appreciate the fact that the better the advancement and the use of technology in our education system, the better the

development and the achievement of the goals of the entire educational system and the practices.

## 1.5 **Scope of the study**

The research work will cover work both inside as well as outside this country to back up the findings of the impact of technology on education. Focussing on Nigeria alone may not really give a broader view of what the research work seeks, since Nigeria seems not to have fully utilizes some of this technology as it ought to be with much light being shed on the impact of technology on education it may help the nation to take up the challenges of increasing the involvement of technology in our education system.

## 1.6 **Methodology and data analysis**.

The major method for collection of data for this long essay is through internet research and references to work done so for by other people.

## 1.7 **Definition of terms**

To remove ambiguities which may eventually leads to the misunderstanding of this research work, some terms as regard to this work will be defined as appropriate.

1. IMPACT – The effect or impression of one thing on another. The power of making a strong immediate impression. (www.free dictionary)

2. EDUCATION – Process of imparting or obtaining knowledge attitudes, skills or socially valued qualities of character or behaviour (www. Education)

3. TECHNOLOGY – Technology is the making modification, usage and knowledge of tools, machines, techniques, crafts, systems, methods of organisation, in order to solve a problem improve a pre existing solution to problem achieve a goal or perform a specific function. (Merriam-Webster).

4. DEVELOPMENT - The systemic use of scientific and technical knowledge to meet specific objectivities or requirement. (www.business dictionary).

# CHAPTER TWO

## IMPACT OF TECHNOLOGY ON EDUCATION

### 2.1 Technology impact on learning

Research literature throughout the past decade has shown that technology can entrance literacy development, impact language acquishing provide greater access to information, support learning, motivate student and enhance self esteem (ACT, 2004: CEO forum, 2001; Boster et al 2004; mann et al, 1999, Tracey and Young, 2006; WestED, 2002). Indeed, researchers have affirmed that computer technology provides abundant opportunities for students to build or modify their personal knowledge through rich experience that technology affords. (O'Hara.s et al).

#### 2.1.1 Technology and content area learning

Kinzer and lev (1997) as quoted by (O'Hara.s et al) demonstrated positive effects of technology on both learning in a content area and learning to use technology it self. They studied the potential of multimedia and hypermedia technologies. One study, the reporter project used multimedia technology to enhance sixth-grade student's information gathering and writing skills. The reporter project was developed and tested in sixth-grade classroom for two years and showed that students made statically significant improvement in their recognition and use of elements such as main ideas, supporting details, and cause and effect relationships. Their writing was also more cohesive than their

control- group peers who where ere taught using similar materials and sequences but without the use of technology (O'Hara.s et al).

### 2.1.2 **Technology and reading comprehension**

Finding consistent with these emerged from a meta-analysis conducted by Pearson et al (2005). The authors reviewed 20 research studies related to using digital tools and learning environments on middle-school students in the following areas:

- Strategy use
- Metacognition
- Reading motivation
- Reading Engagement
- Reading comprehension

They defined digital tools to include a wide range of media forms; images, video and audio clips, hypertext, hyper media, and web pages. The majority's of studies they found dealt with reading comprehension and vocabulary development Pearson et al. concluded that a wide range of digital tools enhance reading comprehension and vocabulary development by providing students access to word pronunciation, word meaning, contextual information, and comprehension scaffolds to guide an individuals reading. Thus, a strong research base supports the conclusion that technology can enhance all aspects of literacy development (O'Hara et al)

### 2.1.3 Technology and language acquisition

There is a large body of research that supports the benefits of technology for language acquisition (O'Hara & Pritchard 2006, Pritchard & O' Hara 2005; lev, 2005; cummins 2005, 5; Duran 2005; Egbert, chao, & Hanson-smith, 1999; Pennington, 1996 Zhao, 2003). Numerous other studies demonstrate the students who learn in existing multimedia and or hypertext environments show greater gains in areas of language development than students who learning more traditional environments on language developments came to similar conclusion (Geotze, 2000; Lehrer et al, 1994; Nikolova 2002as quoted by O'Hara et al).

In a review of studies that focused on technology's impact on language acquisition, zhao (2005) examined studies that researched the use of multimedia and language. Zhao concluded that technology can be used to enhance language acquisition in the following ways;

(a) **Enhancing access efficiency through digital multimedia:** Multimedia presentations (video, images, sound, and text) can create stronger memory links than text alone. In addition, digital technology allows instant playbacks, which provide the learner with quick and easy access to different section of instructional materials than when they are using a textbook.

(b) **Enhancing authenticity using video and the internet:** The internet provides learners with access to authentic materials, like news and

literature while video can offer context – rich linguistic and culturally relevant materials to learners

(c) **Enhancing comprehensibility through learner control and multimedia annotations:** video materials online can be enhanced with full captions, key word captions and speech slowdown, allowing the reader to more easily digest the information.

(d) **Providing meaningful and authentic communication opportunities:** Students can engage in authentic types of communication through e-mail, chat rooms and other digital means.

### 2.1.4 Technology and improved test scores

In 2002. The WestED regional technology in education consortium reviewed a number of research studies related to the impact of technology on learning. They chose studies that they judged to be the most methodologically sound and that had analysed change over time. When reviewing this body of research they found convincing evidence that technology can be effective in teaching basic skills, can significantly improve scores on standardized achievement tests, can provided the means for students with special needs to communicate via e-mail, and can help teachers accommodate students varying learning styles (O' Hara et al).

### 2.1.5 Technology and learner motivation

In the article, “Non-fiction inquiry using real reading and writing to explore the world” (2002), Harvey concluded that the vehicle for increasing relevancy and motivation was through surrounding kinds with compelling non-fiction.

Researching online or using a CD-ROM allows students to search for information they are passionate about learning. Students can make choices when navigating online, which is engaging for learners. When students are given more choice in their tasks, those tasks are more meaningful and increase the student’s intrinsic motivation. (Jordan & Hendricks, 2002 as quoted by O’ Hara et al).

### 2.1.6 Technology use and self – esteem

The research literature also suggests that technology can have a positive impact on the self-esteem of students, especially for at-risk students with low self-esteem and self-confidence (O’ Donnell, 2005; Kenny &

Gunter 2004; Taylor, Hasselbring & Williams, 2001). In 2005, a study conducted by Rom1 and Zoabi examined the impact of computer technology on the self-esteem of dropout youth. The study focused on a control and intervention group, both consisting of 60 secondary level students. The intervention group was exposed to the MS offices suite of tools to use in their learning, while the control group had no access to technology. Pre and post questionnaires were administered to determine attitudes toward learning, self – esteem and self-

efficacy. The findings showed a significant increase on all measures (O'Hara et al)

## 2.2 Impact of technology on the educational system

Shortly after the internet explosion of the 1990s, technology was immediately integrated into the classrooms. Technology, even though symbolizes advancement in human knowledge was seen as a set back by many educators. Many efforts have been established to help educators realize the benefits of technology and ways of implementing them in the classroom. This advancement created a constantly expanding gap between student's perception on the use of technology within the learning atmosphere, and the teachers' perception and limitation. (Stratham Dawn).

### 2.2.1 Educational implications

The student teacher dynamic has drastically changed since the introduction of technology based class structure. The instructor is no longer the king of the classroom but rather a middleman between information and student. Instead of a passive sponge soaking up knowledge, the student has now become an active informational architect, procuring, rearranging and displaying information. Two – thirds of teachers surveyed at the turn of the century stated that they were not comfortable using technology based lesson plans. Through this the personal development is happened harmoniously. Of course technologies damage the rank of teachers at the classes, but the aim of teachers is to develop children's knowledge (Wikipedia).

### 2.2.2 Positive effects

The use of technology in education has had a positive impact on the student's educators, as well as the educational system as a whole. Many positive impacts have been observed by officials in the field. A report by government officials suggests that technology has the following effects on the classroom and students.

1. Change in the role of students and teachers students become actively involved in the process of education rather than the traditional passive roles students assumed. The teacher, instead of being the centre of attention, becomes a facilitator of the means by which students learn using modern technology.

2. Motivation and improved self-esteem: students become more motivated when using technology because it relates to their everyday life and they can see practical implementation of what they learn in the class.

3. Technical skills, teamwork, improved use of outside resources, improved design skills/attention to audience. (Wikipedia).

### 2.2.3 Negative effects

Technology base educational video and games are being integrated in the lives and classrooms of new generations. These videos and games are meant to be used as tools to help growing minds develop, and to increase knowledge and awareness. Although many students who are at high risk for school failure have the potential to learn; but there academic achievement in the core areas of reading mathematics and writing falls far short of their potential. There is growing evidence that the academic difficulties experienced by these students are cumulative in nature, and the gap between achievement and potential grows from childhood into adolescence. These young adults tend to drop out of school more frequencies, than do students without these difficulties, and they experience higher levels of unemployment and under employment. As a group they face a significant risk for lifelong problems. (Stratham, Dawn).

The digital revolution hit generations, also known as the digital generation of youth with a new way of interacting with the world and with their own identities. Social networking websites, such as face book and study cocoa (http://cocoa.io) are tools by which the digital generation as a means of assessing their culture Michel rich, an associate professor at Harvard medical school and executive director of the centre on media and child health in Boston said of the digital generation, “Their brains are rewarded not for staying on task, but for jumping to the next thing, and the side effects could linger; the worrying is we’re raising a generating of kids in front of screens whose brains are going to be wired differently.”

### 2.2.4 Positive effects of technology and learning

The internet itself has unlocked a world of opportunity for students. Information and ideas that were previously out of reach are a click away. Students of all ages can connect, share and learn or a global scale, success at difficult technological tasks, as well as social networking such as face book can also lead to improved self-esteem. The environmental aspects of e-mail and online drop boxes are most compelling argument.

Branches, trees and forests are saved everyday, let alone the countless resources no longer waster to harvest the paper crop. Students in school today are constantly surrounded by technology; we live in a technologies is the best way to reach out to students. Many students have different types of learning styles and using different types of technology is a great way to help all kind of learners (Wikipedia).

### 2.2.5 Usage of multimedia technology in literature

As the great development of data base derived from technology, more and more scholar articles could be uploaded into electronic library through the internet. And as a result, tens of thousands academic articles and masterpiece can be shared by public, especially satisfying the need of the academic writers and college students. However, before the application of multimedia; even like in last 90s people can only go to the library of a university or a public civilian library to borrow and referenced resources from the vast of pages. Where as, the multimedia turns the whole human beings society into a new era. Today,

people could find the useful resources from internet through typing the key words into the search engine, like Google.

And at the same time, the impact of multimedia does not only stay in opening a new door for searching materials, but also it would encourage people to create much more writings. Because of the low efficiently with hand-writing before, universities students tend to avoid creating additional sorts of writings such as letters, novels, diary etc.

### 2.2.6 Efforts to educate educators about technology

The rapid advancement of technology has left the educational system in its dust and the educators scrambling to find a way to catch up. Many technological companies have implemented technology into many of the traditional learning tools to enable teachers to stay afloat in a world of rapid technological advances. As an effort to merge technology into the classroom (Wikipedia).

## 2.3 Technology's impact on education practices

Education practices refer to the customary operations in education, from the educational system as a whole to the individual classroom or teacher (www education).

Investing in technology will impact administration, students and teachers, and the community.

### 2.3.1 Administrative use of technology

a. Administrators new responsibilities must include supporting the efforts of their staff to adopt and adapt new technologies in order to achieve new levels of productivity and achievement.

b. In effect, managers must provide the vision of change that includes empowering teachers and learners in new ways and then must learn how to effectively manage these empowered teachers and learners.

c. Administration – much broader and more fluid group of players and functions to mange.

d. Administrative uses of technology allow teachers to spend less time on cumbersome paper work and more time on educational content and working with student.

e. In many ways, the schools of brick and tradition we have built or inherited are threatened our schools may yet incorporate the use of the internet deep into their psyche and embrace global learning opportunities, or they may ignore the implications of an on-line environment, only to find that they, like the clergy in a post – Gutenberg press world, are no longer the primary brokers of learning and education.

### 2.3.2 **Technology's impact on students and teachers implementation of new technology**

a. There is less "teaching" when learning is happening online

b. Teaching in on online setting challenges teachers to shift paradigms and use a constructivist model of learning that creates roles for other mentors and experts.

c. Teacher from sage on the stage to guide on the side; mentor and coach.

d. Teacher's collaborate more.

### 2.3.3 Community and technology changes

a. Parents and other community members will have access to classes, libraries; home work hat lines, school bulletin boards, community access channels and other resources to assist them in helping their children succeed in schools.

b. Parents and teachers can communicate through personal electronic mail boxes and voice mail.

# CHAPTER 3

## TECHNOLOGY AND EDUCATIONAL DEVELOPMENT

### 3.1 Benefits of technology integration in education

**Introduction**

In the earlier time, before there were factories, there were cottage industries. People manufactured products, not as a group of workers in a central place but individually, in their houses. Some believe that schools may be retracing these steps in reverse. Today's factory like schools may be soon be replaced by children learning in their homes. "Cottage schools" may be created as technology brings the teachers, the curriculum, and the library the teachers the curriculum, and the library onto our home computer screens. Rather then taking the yellow school bus to a larger school building, student is now travelling to school on the internet. (Sadker P.M. et al 2005).

With so must promised and invested, the question begs as to what the benefits of using technology in education are, if indeed, they exist at all. This chapter addresses that question by describing several of the benefits that technology brings to education including.

(a) Improvement in student achievement on tests.

(b) Improves the quality of student work.

(c) The benefits fro students who have special needs.

(d) Technology benefits at – risk students.

(e) Improved attitudes to wards learning

(f) Individualized learning

(g) Act as a catalyst for change.

(h) Technology prepares students for future.

**(a) Technology improves student achievement on tests**

There is mounting evidence that technology improves student achievement on tests in both core subject are as well as over all (PA). The Moore Independent school District in Oklahoma used a cognitive tutor computer based curriculum in 5 junior high school and funds that student who learned using the cognitive tutor curriculum outscored students who were enrolled in a traditional Algebra curriculum on the E.T.S Algebra. I end of course test (Morgan, 2002).they also found that the results held for student of both sexes and all ethnicities are represented in the data.(Morgan,2002). Similar results were found at the high school level in Pittsburgh, Iowa where the Pittsburgh Urban Mathematics Project (PUMP), an algebra curriculum that combines a constructivist approach in studying real world situations and the use of computer tools, was implemented. On the Iowa Algebra Aptitude test, this was significantly higher than the comparison group (kroedinger, 1997).

Better achievement or standardized tests were also founds that student who learned geometry using computers utilizing a constructivist approach in studying

real world situations and the use of computer tools, was implemented. They found that there was a 15% improvement on the IOWA Algebra Aptitude test, which was significantly higher than the comparison group (Koedinger 1997), had made stronger gains in knowledge of geometry concepts than student in a control groups using traditional methods. (funkhouser, winter 2002/2003).

Evidence that computers in education lead to improved achievement is not only found in the subject of mathematics. The Harvest park middle school, located in the Pleasanton unified school district in Pleasanton, California, which established a one-to-one laptop program in 2001, fond that students who participated in the program tended to get “Significantly higher test scores and grades for writing, English – Language, arts, mathematics, overall grade point average (GPAs)” (Gulek, 2005). In fact, students scored at proficient or advanced levels, on average, 17% more than students who did not participate in the program (Gulek, 2005, pg 17). They also found that a “substantially higher percentage of laptop students met or exceeded grade level expectations in writing” (Gulek, 2005, pg 15).

The read-aloud support offered them alternative to “reading” texts and responding to comprehension questions. In particular, when questions had more than 100 words, a significant increase in scores, was found (Dolan, 2005, pg 21) This is attributed to the possibility that such students, who normally had been intimidated by longer passages on pencil and paper exams (and would therefore skip reading them) instead used the read-aloud support to listen to and consequently answer the previously skipped sections (Dolan, 2005).

b. **Technology improves the quality of student work**

Research supports that technology has the potential to improve quantitative assessment performance in core subjects, as well as overall GPA. However, there is also mounting evidence that technology not only has a qualitative improvements; resulting in higher quality student work.

The Harvest Park Middle school found that “student who use computers when learning to write are not only more engaged and motivated in their writing, but also produce work that is of greater length and higher quality, especially at the secondary level” (Gulek, 2005, pg.29) improvement in writing when utilizing technology is especially evident in regard to students with special needs and low-achievers. Such students appear to improve even more than both average students and high-achievers when doing so via word processor rather than with conventional instructional method (Hannafin, 1987).

C. **Technology benefits student with special needs**

Improved writing is not the only area in which students with special needs benefit from technology. One study found that student with Dyslexia improved significantly in reading ability when a computer remediation program, fast for word language, was used and that in some case dyslexic students’ scores were raised into the normal range (Temple, 2003). It was found that such remediation led to “improved language, reading performance and increase activation in multiple brain regions during phonological processing “(Temple, 2003. 4).

## D. Technology benefits at – risk students

Another group that benefits greatly from learning with technology is at-risk students. The Pittsburgh (PUMP) study found that students that may normally be disruptive in the classroom are more engaged and cooperative when using technology to learn (Koedinger, 1997). It concluded that technology makes them more engaged and leads to better learning and better attitudes towards learning.

## E. Technology improves attitudes towards learning

At risk students are not the only one that responds positively to the use of technology in learning. Many research studies have found that most students prefer learning with technology, which in turn leads to a better attitude towards learning as well as giving them more confidence. In the Cognitive Tutor study, students were found to be more likely to say that mathematics is useful outside the academic context and a feel more confident in mathematics than students in traditional classes (Morgan, 2002). Students in the freedom to learn study were found to believe that education "made it easier to do school work, made them more interested in learning, and would help them get better jobs in the future" (Lowther, 2007). The students with special needs in the fast for ward study, similarly, felt that they did better on computer based tests and nearly all recommended the program for other students (Dolan, 2005)

Although many studies find that student attitude towards learning improved using technology, some studies have not found significant different in

student attitude or motivation (Funkhouser, Winter 2002/2003). However, most research tends to support the correlation of improved attitude with technology use.

## F. Technology provides individualized learning

One aspect which may contribute to improved attitude towards learning is that many uses of technology in learning allow for individualized learning. Computer aided instruction, especially when used for drill and practice as a tool for teaching in a traditional sense, allows students to take control of the rate of learning and helps them to avoid embarrassment by allowing them to learn and make mistakes in a non-public manner. Koedinger states:

*Students know right away that they are making progress and having success at a challenging task. Further, because the system does not make a big deal out of errors, students do not feel the social stigma associated with making an error in class or on homework. Errors are a private event that are usually quickly resolved and the students is then back to making progress (Koedinger, 1997).*

Moreover, such computer assisted instruction provides feedback immediately which leads to reductions in learning time (Koedinger, 1997). This is very likely to be a key element in making students feel more confident as well as leading to better attitudes towards learning. Such feedback reduces students' frustration and provides a sense of accomplishment (Koedinger, 1997).

The feedback and self-pacing aspects of computer assisted instruction is not only beneficial to students. Teachers also benefits from the way the tutor programs accommodate a large number of questions students have. This frees them up “to give more individualized help to students with particular needs” (Koedinger, 1997) – which in turn benefits students with special needs and who are at risk.

## G. Technology acts as a catalyst for change

One of the greatest areas in which technology has the potential to benefit education is its role in being a catalyst for change in education pedagogy. Research shows that student centred constructivist approaches to education lead to better achievement in testing as well as preparing students with the skills necessary in the modern workplace. One study done in Turkey found that students who learned in a classroom with a constructivist approach to learning showed greater cooperation and collaboration, higher levels of learning, more confidence, and more willingness to participate in learning activities (Erdamar, 2008). Other studies have found that student centred learning leads to better performance on tests and greater retention of knowledge immediately after learning as well as 30 days after learning. (Karaduman, 2002)

## H. Technology prepares students for the future

The future workplace will require students to have skills related to technology including the technical ability to use spread sheets, work processors, databases and such. By having and working with technology in school, students

gain the skills that they will need to be marketable in the future workplace and to operate in a high-tech world. However, these technical skills are not enough. The modern workplace requires that one have less tangible skills including the ability to collaborate with others, interpersonal skills, creativity, and problem solving skills, to name a few. Technology, combined with a student centred constructivist mode of learning, has the potential to provide students with these higher-level cognitive and interpersonal skills.

## 3.2 Technology and educations, the achievement so far

### Introduction

Preliminary evaluations of the ICT programme indicate that a computer literacy programme of high standard is being implemented by the resource group.

The achievements of technology in education so far can be listed a follow

- Improved development in listening skills through the use of synthetic speech and audio material
- Create independence when they can use the computer to submit school assignments
- New ways of communicating with teachers family and friends using e-mail and word processing
- Improved skills in mathematics using calculator and spread sheets, as an alternative to the above

- Access to maps in geography lessons using the taking tactile Alas
- Pupils and teachers have access to a much wider knowledge base on the internet, using Internet searchers and online dictionaries, encyclopaedias and daisy books (media Lt).

# CHAPTER 4

## SUMMARY, CONCLUSION AND RECOMMENDATIONS

### 4.1 Summary

In summary checking round the schools it can be evidently seen that much has been done to improve the technological as pent of education, but much of what is done is still not effective all because probably no equipment or where there is equipment there may not be able hand to handle such.

According to Sadker (2005) 'Technology continues to influence life in school, yet schools have remained remarkably unchanged through the years. Slates were replaced by chalkboards which are being replaced by whiteboards, part of a stream of technological innovations that has made its way into the classroom.' Although the fact that things are fast improving in relation to our education system and technology can not still be over wed because students are now becoming more autonomy in digging out facts, going for researcher, reading and interacting with friends and also interacting with outside world which gives them more room to bighting up their intelligent. Students of different areas area now had seen displaying great's talents all because of the opportunity to explore the technology all around them.

According to ACOT (Apple Classroom of Tomorrow) summary of impact of technology on teachers. 'As ACOT teachers became comfortable with the technology, they reported they were enjoying their work more and feeling more successful with their students. Over time, they also reported that they

interact differently with their students more as guides or mentors and less like lecturers. In fact, their personal efforts to make technology an integral part of their classroom cause them to rethink their most basic beliefs about education and opened them to the possibilities of redefining how they went about providing opportunities for students to learn".

## 4.2 **Conclusion**

Although the developing countries including Nigeria have become aware of the invaluable role of technology in effective teaching and learning, they have not been able to make significant progress in improving education through this medium (Dr. Ede O. S et al).

Technology in education is neither a novelty nor is it a fed. It is a part of the modern world, and is becoming more ubiquitous in our live every year. It is also a proven method for improving learning. There is strong evidence pointing towards technology leading to better result on standardized tests; however the real emphasis should not be on how it improves test scores, but on how it benefits student learning; how it enables those who are notable to perform at their peak in traditional classroom to do better; how it motivates students to learn and gives them a more positive attitude towards education; how it can individualize learning giving feedback; how it can act as a catalyst for change towards more student centred learning; and how it better prepares the youth of today with technical, communicative, interpersonal and creative skills. The question we should be asking is not whether or not technology should be in

education, but what can we do to remove barriers so as further the integration of technology into our schools. (Anthony S. 2009). More effort must be put into technology to make sure that the potential in it is really explore so we can have the best of its use.

### 4.3 Recommendations

With the result made from this research work includes.

(1) Federal government should get in more technological oriented equipments in Nigerian so that the way other outside country are exploring technology we too can do so.

(2) As the equipment are being ordered in there would be need for capacity building for teachers, so that all can be computer literate to access the facility and also use accordingly for the benefits of the students.

(3) Effective monitoring of the facilities on ground as well as the once that would be brought in so it can serve the purpose

(4) Sending of delegates to developed countries to seek collaboration so that we would not be left behind in the technological move.

(5) Enacting of laws by the federal government for all the school to integrate technology into their learning and get able hands to manage the facilities.

(6) Federal government should carry along the state as well as the local government executive in the implement at technological advancement

since the grass root seems to be suffering and backboard in the implementation.

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