TECHNOLOGY IN SECONDARY EDUCATION: SOCIOLOGICAL IMPLICATIONS FOR THE 21ST CENTURY NIGERIA ADOLESCENTS

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ABSTRACT: *Change is inevitable in the society and in the 21st Century. This assertion cannot be overemphasized in the sense that the advent of technology has seen unprecedented levels of change. The application of technology in every aspect of today's society has become the order of the day in the 21st Century, influencing every sector of modern society. The educational sector is not left in this wave of technological application as the introduction and employment of technological gadgets and approaches in the educational process has impacted the teaching and learning processes comprised of distant learning, cognitive development, collaborative teaching and learning to mention. Scholars have highlighted that the application of technological approaches to learning has been observed to impact the educational performance of students. It is therefore important that this approach be inculcated in the educational sector, particularly the secondary educational level because of its strategic position in the educational sector, its target population and the need to secure and guarantee the future of generations to come. It however, has a number of positive and negative implications for the adolescents such exemplified in cyber-bullying, pornography and the acquisition of improper use of language, among others. Cyber bullying, for instance, has the potential to impact the educational performance of students. This paper therefore seeks to explore the employment of technology in secondary in Nigeria and its sociological implication on adolescents. it establishes that education remains a critical drive of societal advancement and growth as it continues to adjust to meet the educational expectations of the modern-day society. The paper therefore makes a number of recommendations which include that parents and teachers should provide pupils with good orientation on the application and dangers of technology and its devices as well as the need for government and other organization to provide ICT equipment in schools.*

KEYWORDS: technology, secondary education, education

INTRODUCTION

Education is an integral and important aspect in any society, as it is through education that members of the society and the society develops and progresses. The formal system of education in any society cannot be downplayed, this is glaring as most important roles in the society are being played by or assigned to formally educated individuals. Formal education gives individuals an advanced level of intellectual prowess and enhances innovation, positive social change and development. It is bedrock for sustainable development as it contributes to the three dimensions of sustainable development: social; economic; and environment.

Education according to Agada (2004) is a means by which the society provides for the transmission of its culture to the young ones or a means through which the culture or the total way of life of the society can be advanced." Education is an indispensable aspect or institution in any society that helps inculcate the right culture and pattern of behavior to the younger generation. In all parts of the world, education is seen and regarded as an important tool in national growth and development. The Nigerian society is not left out in this world's view and perception about education and this is spelt out in the national policy on education (2004) which highlights that "education is an instrument par excellence for effecting national development". This therefore implies that education in Nigeria is not just seen as an instrument for developing the behavior and intelligence of students but it is also an instrument for national development. It is because of this indispensable importance of education, that the Nigerian government has made education compulsory to all citizens that have attained school going age and parents have also encouraged their wards to attend schools (Mohammed, Aminu & Dahiru, 2017). Therefore, the educational system as an important institution in the society must possess all the necessary facilities and infrastructure needed to develop individuals so that they can be useful to themselves and to the society. As much as education is vital for personal and societal development, it is imperative that the quality of education given to individuals who are committed to it should be of standard and able to meet the dynamics of the society, since the society is constantly changing, with new advancements in technology, it is imperative that the educational system gives students an education that will pay off anytime and anywhere. This assertion is buttressed by Onyido (2009) who highlights that education is as an investment that pays off anytime and any day.

The development of computers and other electronic and technological devices has affected all sectors and areas in the society: in communication, business, the process of buying and selling, and even in the education system. Olele (2014) asserts that before the advent of information and communication technology, the focus was on visual and audio-visual resources. This however had little impact on the teaching and learning process, and there was need for strategies to be employed that would improve the teaching and learning process. The advent of computers and internet technologies saw these traditional methods of doing things gradually fade away, particularly in the educational sector, as such ICT offered an improved approach to teaching and learning (Muka, Dani & Bushati, 2017). Scholars asserts that ICTs can potentially fast-track, enhance, as well as develop abilities to stimulate and engage pupils, to aid them link classroom experiences to job practices as well as creating a viable economy for workers of tomorrow while consolidating teaching and aiding development of schools (Yusuf, 2005, Matthew, Joro & Manasseh, 2015; Muka et al., 2017).

Information and communication technologies can be referred to as the collection of technological resources that are employed as means of communication. In addition, they are employed in the generation, distribution and administration of information (Sarkar, 2012). ICT comprises of soft wares, hardware, network and media for the collecting, storing, processing, transmit and presenting information such as data, text messages, images and other correlated services. The ICT can be divided into two major parts: information and communication infrastructure otherwise known as (ICI) and information technology otherwise known as (IT). Information and communication infrastructure refers to the telecommunication systems that are physical in nature as well as networks and that services that use them such as television, radio and voice to mention a few. Information technology on the other hand, refers to the soft

wares and hardware of information collecting, storing, processing and presentation (Chakrabarti (2019). Just as technology and technological gadgets are important in our daily lives and makes task easier, so also it is in the educational sector. It is now common place to use technology educationally to communicate, collaborate, share ideas and to build knowledge in different fields. Although, the use of technology in education is important and beneficial, it has its social implications on Nigerian secondary school students

Education

Education is the transmission of cultural values and skills from one generation to another. The objective of education is to make life worth living by advancing the socio economic, political wellbeing of the citizens as well as advancement in science and technology. Scholars highlight that education are the learning activities which are targeted at equipping individuals for a number of roles in the society as good citizens, employees and members of family and groups. Therefore, education is the transmission of information, knowledge, skills, values and behaviors from a giver to a receiver with the intention of influencing learners and thereafter society in general in a desirable manner (Dugguh, 2007; Koku, 2017). To Ona (2013), the School which is one of the agents of socialization is the best avenue introduced to inculcate the rightful values and norms into younger ones for the political ability in the country. This can be achieved through citizenship education which is concerned about enabling people to make their own decisions and to take responsibility for their lives and the communities. The term education is derived from a Latin word "educare""which means rearing or bringing up. It is the process of raising or bringing up individuals according to the norms and values of the society where the individual resides so that he can be useful to the society and to himself. Onyido (2016) postulates that, education is the process of simplifying learning and the acquisition of knowledge, beliefs, values and habits. She also stresses that education is a life-long investment that pays off anytime and anywhere. Education is therefore a lifelong process given to individuals in a planned or in an unplanned way. It is given to individuals to develop them, intellectually, socially, morally and economically. It aims to make them relevant to themselves, and their immediate society. To Kemjika (2002), education promotes the cultural heritage of the community; it also aims at perpetuating societal culture". The educational system therefore transmits the culture of the society to the younger generation; it therefore means that education is a means of not just imparting in students.

Education can be described as a procedure that comprises preparation and instructions particularly kids and adolescents in colleges and institutions that are setup to offer information and advance competencies (Oxford Advanced Learners Dictionary, 1995; Siegel, 2008; Onyido & Duru, 2019). According to Onyido & Duru (2019) education is a process that involves the transmission of competencies, cultural values and knowledge through generation. They further highlight that education is a "black box" that sees individuals go through and turn out different from what they were. The implication of this is that education alters the individuals involved. Education can also be described as the events that occur from the moment of their birth till they depart (Nwanna-Nzewunwa, 2017). Therefore education can be deduced to be an ongoing process where it offers knowledge and knowledge promotes power. This agrees with the viewpoint of Onyido & Duru (2019) who quotes the opinion of "James Madison" that knowledge offers power and any nation who seeks to experience development should furnish itself with power with which knowledge offers. They further highlight that it is the light that drives away the darkness of ignorance and permits mankind to be advanced and civilized. It

can be deduced that education aids in the socialization of beings as they offer persons with the necessary behaviors that conform to the ideals as well as norms of the society. In many countries of the world, education has come to be recognized as an indispensable tool for achieving national development.

Secondary Education

The term secondary education has been identified as the second tripod in the levels of education. The first and the third are the primary and tertiary education. According to Nwakpa (2017), secondary education functions as a connection between primary and tertiary institutions. Uwaifo & Uddin (2009) highlights that the Federal Republic of Nigeria views secondary education as the form of education kids obtain upon primary education prior to the tertiary stage. This level of education also includes students that are graduates of primary schools and have acquired basic functional education. Secondary stage of education is divided into junior secondary and senior secondary stages of education where pupils spend three years in each division and a total of six years. As such, junior secondary education in equally prevocational as well as educational and primary subjects are imparted to empower the kids as well as advance competencies while secondary school levels are classified for those willing and capable of completing a six year secondary education (Nwakpa, 2017). Furthermore, the National policy on Education highlights that there are two fundamental goals and objectives of secondary education which include; preparing the recipients for higher education as well as preparing the recipients for useful living within the society (National Policy on Education, 2004). These two wide-ranging objectives upon analysis indicate that secondary education is expected to organize and offer pupils to numerous tertiary educational institutions whilst during the same period arming pupils with the required competencies needed to live a happy and economically viable life in case they do not get the tertiary education (Nwankpa, 2017). In Nigeria, secondary schools are owned by the government, private sector and religious bodies.

Technology

Technology is the use of electronic gadgets to do things, these gadgets can be used for communication, giving out information, among others. These are technological gadgets that are employed for communication, dissemination of information and used recently to aid the education and learning procedure. Information and communication technologies (ICTs) imply a number of interpretations to various educators and scholars. According to Yusuf (2007) ICT is an electronic technology employed for accessing, handling, collecting, influencing, presenting and sharing information. He further opined that in situations when ICTs are applied in education they have the capacity to improve, advance and deepen fundamental competencies in reading, writing arithmetic and sciences apart from motivating and encouraging pupils to learn thereby becoming more accountable and independent in their learning. ICT based on the viewpoint of another school of thought is an instrument that comprises devices that are electronically operated that are employed for the information as well as communication requirements of companies, pupils and persons (Nwakudo, Oguejiofor & Nwankwo, 2006). According to Boniface & Cheta these devices are made of soft and hard wares and the use and implementation of these devices turn information, noise, movement and text messages into digital forms. Ofodu (2007) postulates that ICT can be referred to as, electronically operated devices that are employed for numerous operations particularly training, learning and individual use. It is a revolution that comprises the employment of the internet, computers and other technologically tele-communicating devices in all aspects of social endeavor (Bandele,

2006; Kimoni, 2012). Furthermore, it must be highlighted that ICT is basically the accessing and sharing of data esily and is seen as the super highway where information is moved and shared by individuals and communities across the globe (Chapman & Slaymaker, 2002). From the definition of ICT by Umar et al (2015) it can be deduced that it is the processing and controlling of information through digital and communication instruments like mobile phones, cameras and computers. From these descriptions it can be deduced that ICT is a process of disseminating information employing electronically operated devices. Basically it is a compilation of all technologies for the process of dissemination and manipulating information (Hennesy, Onguko, Angondi, Harrison Namalefe, Naseem & Wamakote (2010). In the area of education, ICTs are tools like audio-visual, visual and audio materials which are employed in the process of training and learning, they allow pupils explore knowledge, obtain knowledge for themselves at their own pace. In schools where technology is being embedded in learning, students tend to perform better than students who still depend solely on their teachers (Eady & Locker, 2013).

Benefits of Technology in the Secondary School Education
The 21st century world is a dynamic one, one that is ever changing and surrounded by information. It is therefore important that the type of education given to students should match the dynamic nature of the world. Technology in teaching has many benefits especially to students in secondary schools. The following are some of the benefits of technology in education.

Collaboration of knowledge: the employment of technology in the classroom is important as it allows students share knowledge among themselves anywhere. The use of technology in education allows knowledge mobility, this means that knowledge can be gotten, shared and used anywhere within the classroom and outside the classroom. This collaborative learning can be between teachers and students or within students.

Student centered: using technology in the training as well as learning procedure makes teaching transcends beyond the traditional notion of the lecturer being the sole custodian of knowledge. With the use of technological gadgets like the internet, students can access any information they need and also learn at their own pace. Ajayi (2008) posits that training as well as learning has evolved passed the lecturer positioning himself in front of a collection of pupils as well as circulating information to them without the pupil's adequate participation. This harnesses the point that technology in education makes teaching and learning less teacher centered and more student centered.

Convenience: it makes educational activities easy and simple. With this blended method of teaching, students do not necessarily need to carry heavy backpacks, they can easily read and store information in their laptops, do exercise and send to their teachers at any time. Also teachers do not need to carry scripts around as students works can be marked with the aid of technological devices. Technology in education is convenient for the trainers and the pupils.

Wider range of information: the internet houses a lot of information, with thus, students can get more information about a subject area beyond the one they get from their textbooks. Through sites Luke the ReserachGate, Google scholar, Google and others, students has a wider range of access to informative information about different subjects.

Intensifies teaching: ICT gives room for students to learn intensively and thoroughly. Through audiovisual materials, students have a more concrete idea about the concepts they being taught. For instance if students are taught about how the intestines work and they get to only see a picture of the intestine, they nay get an abstract view of how the intestines really are, but with the help of the YouTube, students can see and even watch how the intestines functions, this has helped in intensifying the lesson the teacher has taught, with this students will not forget this concept easily, they will also be no need of memorizing because what they have seen will stick better.

Updated knowledge: with the employment of technology in schooling, students are exposed to recent and updated knowledge about certain subjects instead of the old information in most textbooks.

Sociological Implications of Technology in Education Among Adolescents in Nigeria
Although technology makes teaching and learning easier, simpler, more effective and student centered, it however has some implications, some of these implications will.be discussed below:

Distraction: students especially adolescents are easily distracted, they tend to want to explore, find new things and break barriers. Because of this adventurous nature of these adolescents students may not concentrate in class or in doing their projects online, they may be distracted by other sites and games that are not relevant to their studies, and this could lead to poor performance.

Cyber bullying: this is the use of technological devises to harass other people. Smith, Mahdavi, Carvalho, Fisher, Russell and Tippett (2008) defines cyber bullying as a form of bullying or harassment using electronic means. To these authors, this form of bullying is predominantly found among adolescents and it could include sending threats, hate speech about someone, posting rumors, making sexual remarks or giving out delicate information about someone to others. Since students have a free access to technological devices, they can be bullied easily and bully others.

Laziness: students become lazy to read printed materials or rack their brains to solve an academic problem. Some students may decide to skip school since they cab get the information they need on the internet.

Bad use of language: constant use of technology especially the phones in note taking, damages student's language prowess, since most words can be predicted or corrected on their own, there can be tendencies that students forget how to spell some words or construct their sentences appropriately.

Cost Intensive: technological gadgets are usually expensive and some students may not have the funds for it.

CONCLUSION

Education remains a critical drive of societal development and enhancement, and since the world keeps changing, the educational system also keeps devising different means to incorporate this change in the curriculum to enhance learners with the relevant skills that will help them meet up with this era of technology. It has been established that the employment of technology in schooling is desirable among secondary school students in Nigeria. Internet is a new technology which has some good and bad effects on Nigeria secondary school students as much as it helps students learn effectively, it also leads to poor performance when it acts as a distractor to students. The study also concluded that teachers, parents and counselors have very important roles to play in order to help the students stay less on the internet as well as prevent internet's negative effects on them.

Recommendations

- The government and private bodies should provide ICT equipment to schools and to students who cannot afford it.
- Students should be checked on regularly while using the internet to make sure they have not been distracted with something else.
- Teachers and parents should properly orient students to shun cyber bullying and students who have been bullied should be properly counseled to get their confidence back.
- Students should be advised to put off their prediction option, to help them spell words correctly.
- Students should be given relevant information about the use and abuse of technological devices.

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