

# ICT in Teacher Education: Prospects and Challenges of E-Teaching in Nigeria

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**Abstract:** *Teachers are indispensable within the teaching – learning process. Hence, they constitute a major input in the accomplishment of educational goals and objectives in all nations. In Nigeria, teacher education has been bedevilled with a lot of challenges in the modern-day technology of imparting knowledge in the teaching and learning process. Information and Communication Technology (ICT) is relatively a very new development in Nigerian educational system. ICT plays a significant role in teacher education. Hence, the objective of this paper is to discuss the prospects of ICT in teacher education as well as its challenges in E-teaching profession in Nigeria. The findings via descriptive research revealed that many teachers in Nigeria are not using ICT facilities in teaching learning process due to some challenges which include high exorbitant price of ICT facilities, lack of infrastructures in the areas of electricity supply, lack of adequate trained manpower for the development, maintenance and operation of ICT facilities, lack of commitment on the part of government towards the development of ICT, inadequate funding of internet connectivity and lukewarm attitude of many teachers to be computer literate among others. This paper proffers some probable ways of improving ICT in teacher education in Nigeria. It concludes that the importance of ICT in teacher education to improve the quality of teaching and learning process in schools cannot be over-emphasized.*

## 1. Introduction

Teachers in all nations constitute a major input in the accomplishment of educational goals and objectives. The National policy on Education (2004) in Nigeria reiterates that no education system can rise above the quality of its teachers. Hence, teachers are indispensable within the teaching – learning process. Also trained and effective teachers are the principal assets of any educational system. Osokoya (2012) aptly observes that teachers constitute not only a vital input to education but also a major drive in the production process and in the determination of the output system. Teachers touch and shape destinies. Okemakinde, Adewumi & Alabi (2013) states that teachers are the ones to make it possible for a child to be grounded in his mother tongue, acquire one or more Nigerian languages, plus English and one or more foreign languages. They are the ones to ensure a proper foundation of scientific education for the child.

In the light of this, it is impossible to think of education without the contributions of teachers. That teachers have a vital role to play is not in doubt, and this fact has been recognized by international development organization. In fact, teacher- training rates highly in the context of the Sustainable Development Goals (SDGs), which has now acquired the status of a framework for measuring development (Olowoyeye, 2016, Musa, Jimba & Ogundele, 2015).

In Nigeria, the late President Musa Yar'Adua listed education among his seven point agenda that will guide his administration in the vision 20-2020 which was aimed at ensuring that Nigeria is placed among the leading 20 world economies by the year 2020. Olowoyeye, (2016) asserts that it must be cleared in our minds from the outset that at the centre for the attainment of these goals and vision is the teacher. For it cannot be disputed that the teacher basically determines the relevance, quality and sustainability of

education. Indeed, the world has always been a teacher's world whether this is appreciated or not.

According to Ogunyinka, Okeke, & Adedoyin, (2015) teacher education refers to professional education of teachers towards attainment of attitudes, skills and knowledge considered desirable so as to make them efficient and effective in their work, in accordance with the need of a given society at any point in time. It includes training and or education occurring before commencement of service (pre-service) and during service (in-service or on-the-job). Every society requires adequate human and material resources to improve its social organization, preserve the culture, enhance economic development and reform the political structures.

However, teacher education in Nigeria is bedevilled with a lot of challenges in the modern day technology of imparting knowledge in the teaching learning process. Information and Communication Technology (ICT) is relatively a very new development in Nigerian educational system. ICT plays a significant role in teacher education to effectively surmount the enormous task of capacity and nation building. Olutola & Olatoye (2015) opines that if Nigeria must catch up with other developing countries at a very reasonable pace, the nation builders (teachers) must be abreast of all new development around the world more so that the world is now seen as a global village.

In the preparation of teachers at all levels of our educational system, ICT has a lot to offer in this direction. However, the usage of ICT in facilitating teacher education is still a myriad in Nigeria as many of the teachers are not ICT literate and those under training in Colleges of Education, Institutes of Education and Faculties of Education in Nigerian universities are not fully exposed to the use of ICT in the acquisition of skills and practical teaching. Before 1995, teaching profession had been an all comers job. Many of the teachers were not professionally qualified. In 1994, out of a total teachers' strength of 435,210, there were 91,868 teachers in various primary schools in the country

who did not possess the Grade II teachers' certificate and 361,118 who did not hold the NCE (UNESCO, 2000). It could be observed that less than 10% of the teachers in Nigerian primary and secondary schools are computer literate. This is a great challenge facing the effective use of ICT in teaching and learning process in our schools.

### 1.1 What is E- Teaching?

Simply defined, E- Teaching is an electronic teaching. It is technically the same thing as regular classroom teaching except that e-teaching is presented in an electronic media. Oluwafemi (2006) asserts that the internet has the potentials to bring about a profound change in education for all professions. Traditional approaches to teaching, lecturing and tutoring confined to classroom are now extended by modern approaches to teaching using the more recent technology of online classrooms, multimedia, courseware, distant course, online workshops, media education and video conferencing (Olatoye, 2011).

With the use of internet services, the traditional method of disseminating information on universities courses through leaflets and other print outs are becoming obsolete. The internet is offering a different approach by making the universities worldwide to promote and advertise their academic programmes to much wider domestic and international audience. It is a perfect channel for distance education programme. Courses can be offered on the internet and students supervised, tutored and consulted through the internet. Learning materials can be down loaded and instructional programme given via e-mail and continuous assessments are carried out. For the institutions of learning, the internet can be ideal place to store lecture notes, course materials and assignment sheets. However, this is a recent development in Nigerian educational system and many of the undergraduate teachers in Nigerian universities only make use of internet facilities to carry out assignments and other research works. Some institutions in Nigeria have embraced the online registration for courses and fee payment but no academic teaching has been carried out online for students not to talk of examinations through internet. However, the programme of the former University of Education, Ikere-Ekiti, Nigeria now consolidated with Ekiti State University, Ado- Ekiti, Nigeria, has been ICT driven where all students were given laptops and two weeks intensive training on ICT to facilitate e-teaching and learning process in the university. The development is very recent and challenging as the university was committed to be a leader in teacher education in Africa. This could be a model for other teacher training institutions to emulate in Nigeria to develop teacher education to a globally acceptable standard.

Closest to us here also is the giant stride of the Adamawa State University, Mubi, where the University authority through her ICT Directorate has anchored a lot of ICT driven policies, one of which is the one-to-one students Laptop program; making all their students to own ADSU branded laptop with the sole aim of integrating ICT into teaching and learning. (<http://www.adsu.edu.ng/units-services/ict-directorate/downloaded> on 8th March 2018)

### 1.2 The Present Status of ICT in Nigeria Education

In the present day society, computer is no longer a specialized tool used only by scientists but an instrument now been extended to education, commerce, banking, industry, administration, governance, health sector to mention a few.

Seweje (2006) notes that Nigeria as a developing nation is getting stronger by the day but one important index of strength is the quality of education provided her citizenry. Today, in most developed countries, nearly every aspect of human life including education is ICT driven. The education sector in Nigeria still lags behind in this aspect of technology. However, concerted efforts are being channelled towards this direction by the Teachers Registration Council of Nigeria (TRCN), National Commission for Colleges of Education (NCCE) and the National Universities Commission (NUC) (Aturamu, 2006).

In Nigeria, it is pertinent to say that computer studies have been introduced into the school curriculum especially at the tertiary level but it is yet to be matched with required practical exposure to the utilization of these new skills for optimal productivity. Much of the intervention has been in the areas of providing some measure of literacy in the aspect of word processing. It is quite obvious that in spite of the copious exposure to computer education as a general studies course in Nigerian universities, more than 80% of Nigerian undergraduates and graduates are unable to adequately utilize the computer and more than 90% by conservative estimate of the Nigerian secondary school students are unable to use computer, while at the primary school level, less than 5% of the total population is computer literate (Adako & Aturamu, 2006). The reason for this is not farfetched. The teachers teaching these students and pupils are not skilled in computer education and application. This calls for the urgent need to address the present situation as teachers constitute a major influence on the use of ICT in the teaching and learning process.

### 1.3 Prospects of ICT in Teacher Education

The pace of development of ICT in every facet of human life is quite appreciable. In as much that ICT has been found to be an indispensable tool in various facets of human society, education too has adopted ICT in various ways since it has been found to be of useful support in teaching and learning process. Teachers as nation builders cannot afford to be left behind in the revolutionary approach to modern day knowledge. It becomes highly imperative for the educational planners to be concerned with evolving effective strategies for teaching and learning of instructions in our various schools. Modern education techniques will have to be increasingly used and improved at all levels of the educational system.

ICT possesses a great potential for education and capacity building. It allows for systematic gathering, processing and dissemination of information through the use of creative tools for managing and delivering subject matter. Oliver, Chapman & French (1992) opine that a teacher could benefit from the dynamism of ICT to demonstrate some difficult

concepts, theories and principles, thereby giving meaning to classroom instruction and making class presentation an exciting one. Teachers can use computers to simplify teaching, make learning experiences more effective and to offer students access to a variety of learning tools, expert opinion and alternative view points. Hence, it affords teachers and students to appreciate positively their cardinal tasks of teaching learning and research activities.

ICT has been a veritable tool that could be used to enhance quality of education in various ways: by increasing learner motivation and engagement, by facilitating the acquisition of basic skills, and by enhancing teacher training. Daramola (2006) affirms that ICTs are transformational tools which when used appropriately can promote the shift to a learner centred environment.

The commitment of the government in investing on ICT usage in education is enormous, substantial and highly justified considering the backwardness of African nations in education. The National Universities Commission (NUC) made a laudable achievement in this direction by putting in place physical ICT infrastructures in some selected universities in Nigeria. Even the National Commission for Colleges of Education (NCCE) has mandated all college teachers to be computer literate. Expectedly, the Federal Government of Nigeria has put ICT and teacher education in the fore front as one of the parameters for ensuring the achievement of the Sustainable Development Goals (SDGs) in Nigeria.

It therefore becomes highly imperative for teachers to take advantage of ICT to enhance their skills to keep abreast with global developments. Nigerian teachers would be able to compete favourably with their counterparts in the advanced nations only if they expose themselves to the available knowledge in the realm of ICT. Concerted efforts should be made by all stakeholders to ensure that teachers are always in tune with new global developments in their profession.

#### 1.4 Challenges of ICT in E- Teaching in Nigeria

The challenges militating against the effective use of ICT in teaching in Nigeria are of multifarious dimensions. As rightly observed by Ojo (2005), the corps of teachers who are expected to bring reform into Nigerian education system went through the traditional 'old' system without any exposure to ICT. It becomes a difficult problem for these set of teachers to acquire adequate mastery of skills and content that are embedded in ICT. The reorientation and re-directing our value system towards the latest development around the world has put many teachers in a state of disarray to whole heartedly embrace the e-teaching technology as many of the teachers lack the basic skills and access to computers.

Haruna (2005) observes that the initiation and development of Information Technology service in Nigeria is militated against by certain human and materials factors. Some of these are highlighted as follows:

- ICT facilities are expensive and unaffordable to many individuals, private and some government establishments.

- Necessary infrastructures such as electricity and telephone for the operation of ICT components are lacking or grossly operated at epileptic level.
- Lack of adequate trained manpower for the development, maintenance and operation of ICT facilities to service the increase demand of Information Technology service in Nigeria.
- Poor remuneration for the inadequate personnel in ICT which consequently keep them away from labour markets in Nigeria.
- Lack of total commitment on the part of government towards the development of ICT sector. -Inadequate funding of internet connectivity because it is capital intensive.
- Lack of adequate knowledge among the educational planners, administrators as well as the society on the importance of ICT in educational system.
- Lukewarm attitude of many teachers especially at the primary and secondary school levels to be computer literate. The capacity building of teachers in ICT is very low and this must be urgently addressed by educational policy makers and school administrators.

#### 1.5 Probable Ways of Improving ICT in Teacher Education in Nigeria

Based on the problems highlighted above, the following ways are hereby suggested through which the influence of ICT on teacher education could be improved.

- There is urgent need to review our educational policy strategies and techniques as well as the teaching methodologies of developing our teachers.
- There is need to introduce the teaching of ICT in the school curricular at all levels of our educational system with emphasis on practical application.
- ICT as a course should be made compulsory for lecturers and students of teacher education programme as these students will graduate to teach our school children in schools.
- Supportive infrastructures such as electricity and telecommunication services should be improved and adequately enhanced for effective services. -The ICT professionals should be encouraged through good remuneration based on improved salaries and conditions of service.
- ICT facilities should be made available at affordable price to be procured by teachers at government subsidized rates.
- ICT centers should be established at all strategic and governmental levels to provide services to people especially the teachers.
- Re-orientation and re-directing our value system towards the latest development around the world will put our teachers in a state of readiness to whole heartedly embrace the E-Teaching technology. This could be achieved through teacher in-service training programmes such as conferences, seminars and workshops that are based on ICT and teaching and learning process in schools.

## 2. Conclusion

The importance of ICT in teacher education to improve the quality of teaching and learning process in schools cannot be

over-emphasized. The relevance of Nigeria in the educational development programme in the 21st century solely depend on the degree of free flow research works and ideas, findings and innovation in education and curriculum information. These can be fully achieved through full integration of the nation into the global highway which is ICT oriented.

ICT should be more emphasized in teacher education programme. ICT should always be seen as a tool for teachers to use and not as a substitution for teachers. Government intervention in the areas of funding and providing necessary infrastructures to ensure success of ICT in teacher education programme in Nigeria must be urgently addressed. Nigerian government should stop paying lip-service to ICT but rather make frantic efforts to develop and sustain ICT policy in the nation's educational programme. This will go a long way to effectively implement the use of ICT in teaching and learning process in all spheres of our educational system. More also, this will help to guarantee the success of the new teaching technology and teachers will be forced to be abreast with the modern development in the global educational standard, of which ICT plays a vital role.

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