

# PROVISION OF INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) IN RURAL AREAS AS A MEANS FOR SUPPORTING QUALITY EDUCATION IN NIGERIA

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## **Abstract**

*There is need for Nigeria to ensure that there is quality education for development in rural areas. In this modern era, the emergence and use of information and communication technology (ICT) in education has helped in development. The paper is a discussion that utilization of ICT in rural areas can bring about quality education for rural development in Nigeria. For explicit understanding, the paper looked at: need for rural development, concept of quality education, emergence of ICT, provision of ICT as a means for quality education for rural development. The paper has some recommendations in support of use of ICT in rural areas for quality education. It is pointed out that ICT is valuable in rural areas for promotion of quality education because the technology can be applied in enhancing: work productivity, intellectual ability, and communication activities.*

**Key Words:** information and communication technology, rural areas, rural development quality education.

Aspiration for national development is a dream in the world. The issue of development reveals that Nigeria is a developing nation with various socio-economic problems; and so, she has not witnessed a very high standard of living, as seen in the developed nation. To achieve high standard of living in Nigeria, development of rural areas must be embarked upon. Rural development can be fostered through quality education.

Quality education is usually a resource for development in human society. Nwosu (2006) asserted that quality education is a resource for achieving great and dynamic economy. It is from education as from a central hub that rays that invigorate other contemporary human activities take their rise (Okafor, 1990).

Promotion of quality education in Nigeria demands the use of information and communication technology (ICT). Thus, it is expected that ICT being a prominent technology in this modern era should be well embraced for actualization of rural development. ICT is a form of electronic technology that is concerned with acquisition, processing, storage and dissemination of information (Nwosu, 2016).

The paper is a discussion on provision of information and communication technology in promoting quality education for rural development in Nigeria. In the discussion, issues treated are need for rural development, concept of quality education, emergence of information and communication technology (ICT), provision of ICT a means for quality education for rural development.

## **Need for Rural Development**

History of mankind is the various efforts being made to ensure better livelihood. Better livelihood in a nation signifies national development. An aspect of national development is rural development, and so rural development should be among great desires in Nigeria. Ukwu in Chukwulobe (2010) pointed out that rural development is the foundation for national development and should be seen a means of improving the quality of life of people.

Rural development implies that those activities that gear towards development must be exercised in the rural areas. The focus of rural development is that man in the rural area should be the attention of all rural development efforts. Thus, quality rural development activities must be geared towards the satisfaction of people's basic needs for better health care services, more effective and efficient transportation, better means of communication, more reliable municipal services, plentiful supply of clean water as well as better leisure and entertainment services.

A lot of rural areas in Nigeria lack development for they experience lack of basic amenities such as portable water, motorable road, electricity supply, good health facilities, etc. Poor development in rural areas (ie low rural development) has brought about rural-urban migration with the negative social consequences of such a trend (Ezenagu, 2000). Ezenagu (2000) pointed out that extending the basic amenities of the urban centres to the rural areas will reverse most of these undesirable trend and there will be release of the latent energy and economic resources of the rural communities for national socio-economic and physical development.

### **Concept of Quality Education**

Education is a product or process that deals with acquisition of knowledge, skills and right disposition for one to develop towards being useful in human society (Nwosu, 2016). Onuoha in Onwuka (2002) defines education as a process by which the individual is enabled to develop his capabilities through the acquisition of knowledge, skill, values, and attitudes both for his own benefit and for the benefit of the society. It is on such definition that Ejionueme (2007) noted that education has the potential of shaping the destiny of the individual and the society. Okafor in Ejionueme (2007) stressing the functional value of education observed that education is concerned with what makes a man live and function in the society. It can be said that education is concerned with activities that focus on teaching and learning of principles and skills aimed at ensuring that people in society are equipped for development.

For education to be valuable in ensuring development it need to be qualitative. Simply stated, quality education is education that has standard (Nwosu, 2006). Okonkwo (1990) acknowledged that standard and quality of education are much related, quality being an extension of standard; quality is consider to be normative variable which is based on a number of indices that are themselves defined by the values, goals, orientation and level of development of the society.

Quality education enables those who benefits from, or acquire, it to identify with goals, aspirations, and needs of the society (Okubanjo, 2006). Quality education is a medium for achieving great and dynamic economy because quality education deals with efficiency in the attainment of national goals for economic and social reforms (Nwosu, 2006). Ndidi in Okonkwo (1990) pointed out that quality education is concerned with the issue of relevance, validity, functionalism and efficiency of an educational system in achievement of national goals and priorities.

Quality education takes place when a teacher teaches in a manner that enables learners learn the subject contents with ease. A sound knowledge and skills well imparted and acquired indicate quality education. According to Denga in Okubanjo (2006), education becomes qualitative only if learners demonstrate required competence to solve relevant problems and carry out tasks that are commensurate with their educational and age levels.

It is the view of Okubanjo (2006) that a programme of education that is short of quality has nothing to offer its beneficiaries as its graduates can neither contribute anything meaningful to their personal nor national development. A problem that can militate against quality education in Nigeria, especially in rural areas, is inadequate supply of instructional materials and equipment needed for effective education. A resource prominent in this modern era that can contribute to quality education is information and communication technology (ICT).

### **Emergence of Information and Communication Technology (ICT)**

The term information and communication technology (ICT) is often taken to be synonymous with the term information technology (IT). In a strict sense, information technology (IT) can be seen as a part of information and communication technology (ICT). Whether the term ICT or IT is used, the central focus is provision of information through technological means. Chijioko (2005) acknowledge that information is very important in man's activities and it is needed to ensure that a changing society make wise decisions and have desirable revolution.

Information and communication technology (ICT) can be seen as a means of gathering, processing, storing and disseminating information through electronic media and print (non-electronic media). Otunne and Okwuodu (2011) asserted that ICT technically encompasses pre-digital technologies, paper-based writing and is most often used to describe digital technologies including methods for communication as well as techniques for storing and processing information. Ezekoka in Abdulkarim and Boyi (2012) view information and communication technology as the collection,

storage, processing, dissemination and use of information and it includes telecommunication services used together with computer hardware and software for range of services including internet.

Talking about the emergence of ICT, attention is drawn on the use of electronic technology for communication purpose. ICT emerges because of the presence of electronic devices and systems that are associated with processing, transmission, reception and storage of information. When ICT is mentioned, the use of computer and internet easily comes to the mind. Emergence of ICT can be viewed as emergence of electronic-based communication as can be seen in the use of computer, television, radio, satellite, telephone, diskettes, flash drives, CD ROM, etc. Emergence of electronic-based communication in this modern era is as a result of existence and use of semiconductor. In the past, the materials and techniques employed in electronic-based communication are based on the use of valves (vacuum and gas-filled devices), but that used as the basis for modern electronic-based communication is semiconductor. Among semiconductor materials, the one mostly used in electronics is silicon. Nwosu (2016) observed that electronics as seen in this modern era is possible due to emergence of solid state device like integrated circuit which is usually built using semiconductor materials like silicon.

Information and Communication Technology (ICT) is a technology which has influenced human life and activities; hence, it can be beneficial to the development of a nation. Inyama (2004) asserted that information technology has the advantage of transforming human world into a “global village” where people can easily communicate with one another in multimedia electronically from any point in the globe and the technology affects socio-economic activities. Nwosu (2005) opined that information technology promotes socio-economic activities because it facilitates communication, improves business activities, minimizes transportation hazards, creates employment opportunities and facilitates acquisition of education. Ogbonna (2003) outlined some of the advantages of ICT as:

- ❖ provision of speed and easy access to information
- ❖ Provision of round-the-clock access to users
- ❖ Provision of access to unlimited information from different sources.
- ❖ Provision of information flexibility to be used by any individual according to his or her requirements.
- ❖ Facilitation of reformatting and combing of data from different sources.
- ❖ Provision of remote access to users.

### **Provision of ICT as a Means for Quality Education Needed for Rural Development**

It is a clear fact that quality education is the pillar for national growth and development because it provides the knowledge, skills, abilities, attitudes and values necessary in bringing advancement in a nation. Provision of requisite knowledge, skills, and technical know-how in information and communication technology (ICT) in rural areas of Nigeria serves as a means for quality education needed for rural development. This is because ICT can serve as a technological resource to empower intellectuals and educational activities for achievement of rural development.

Among the people expected to dwell in rural areas for actualization of development are teachers, scholars and students; and they can be regarded as intellectuals. ICT has the potentials of enhancing productivity of intellectuals for academic and administrative works carried out in schools in rural areas. Chike-Okoli (2004) pointed out that productivity is the measure of the efficiency with which a nation's resources are transformed into commodities and services and it depends heavily on human development even though productivity is a function of amount of manpower, materials, physical capacity and equipment available in use. In the view of Nwachukwu (1988), productivity is the output resulting from a given resource input at a given time. ICT is a resource for productivity for it can be used in making works fast, easy and less stressful for the intellectuals. Thus, with ICT there can be provision of economy of time and energy needed by the intellectuals for rural development.

The nature of technology determines the level of productivity and improved technology increases productivity (Nwachukwu, 1988). Computer is a vital electronic technology (ICT) device that can foster productivity. Ekemezie (2003) is of the view that the purpose of computer system is to speed up problem solving and increase productivity. Sadiq, Nnebe and Momodu (2004) emphasized on the importance of computer system by pointing out that computer is a machine that is used for faster generation, calculation, as well as storage of information and it is useful in facilitating communication, interaction, comprehension, stimulation, evaluation, assessment, synthesis, recreation

etc. Nwosu (2004) pointed out that computer system is useful based on its important characteristics such as accuracy of results, high operational speed, reliability, flexibility, and neatness of work. Nwosu and Chijioke (2006) noted that computer is an electronic device that makes works easier for man by accepting input data and, based on set of logical instruction called program, processes the data with a high speed and accuracy to generate an output result.

Provision and use of ICT resources can go a long way in empowering human resources for human development essential for ensuring quality education for rural development. Usually, human resources are more valuable than material resources in an organization. When there is empowerment of human resource, there is human development for manifestation of effective and efficient works in an organization and society. Human development is concerned with inculcating in a person those potentials and attributes that makes the person to be useful in society. Adewole in Nwosu (2007) is of the view that human development brings on the totality of the efforts and achievements made at ensuring that people in a society are equipped with the necessary knowledge, skills, abilities and environmental conditions necessary for them to achieve their full potentialities as human being as well as to function accordingly.

ICT can function as a resources for human development though its utilization in intellectual enhancement made possible through acquisition of education. Fortunately, computer system can aid in intellectual enhancement. Computer is a means of intellectual enhancement needed for rural development because it can aid in acquisition of knowledge and skills needed for development of human personality in the rural area. Sadiq, Nnebe and Momodu (2004) observed that computer performs dual functions in education for it is used as a teaching aid and a teaching course. Educational packages (software) such as Computer Assisted Instruction (CAI), Computer Aided Learning (CAL), and Computer Managed Instruction (CMI) can be installed in the computer. Computer educational software has the potential of enabling students obtain knowledge and relearn any portion of subject matter with ease and at a convenient pace for better understanding, and also helps teachers get prepared for the tutorial sequences they want to engage students in.

Computer system can serve educational purpose by watching educative films in the computer. Educative films on disk can be slotted into the computer system; students and teachers in rural areas can watch them for intellectual enhancement. Thus, students and teachers can use computer system as if in a theatre. Performances from a theatre can go a long way to provide pleasure and extend our knowledge of people, their experiences, environment and culture.

In this modern era and computer age, the use of the internet can be among prominent activities in rural areas. Internet stands for "International Network" and it is a network of computer networks in the world, such that people can communicate any time with one another from any part of the world. Internet usage can promote intellectual enhancement. People involved in education in rural area can browse in the internet and get information for knowledge concerning issues, concepts, ideas and technologies. Internet can be used for electronic learning (e-learning). With e-learning, as a form of information and communication technology, knowledge and skills can be made available to people irrespective of distance. E-learning, by its nature, can enhance distance education for rural development. Distance education is a form of planned learning that happens in a location different from the place of teaching.

ICT can also be useful in ensuring quality education for rural development through the provision and use of resources that can foster communication activities of stakeholders concerned with education. Communication is mostly through sound or text. Adequate communication can enhance the activities of teachers and students. No meaningful development will take place if there are no adequate communication facilities and strategies. Thus, effective communication makes an educational organization to move forward.

People in educational organization can make use of computer to enhance their communication abilities. It is an axiom that the major aim of communication is to send or receive information. Members of educational organization can have communication with people and organizations for vital information needed in their work using typed and printed texts done with computer system. Computer texts are usually neat and presentable. Teachers can use computer system as teaching aid for effective communication among the students. For example, educational activities can be stored in a disk and played in a computer system for imparting of quality knowledge and skills among students. So

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computer can serve as an audio-visual aid which the teachers can use for effective communication in the classroom.

Presence of computer has brought about the use of internet for communication. By browsing through the internet, vital information can be acquired in the education system for rural development. Chijioke (2005) noted that internet is special because it is cheap and fast means to get information, provide information and compile information. Inyiama (2004) averred that some of the uses of the internet, as communication device, are its application in E-mail, facsimile, electronic bulletin boards, data based records, file transfer.

As part of ICT, telecommunication devices can be employed for communication useful in fostering quality education in rural areas. Use of electronic media like radio, television, videophone system, and telephone in education system has the potential to provide information, knowledge and ideas for rural development. Radio is an audio medium for reaching the masses and has the advantages of being cheap, portable and using both a.c power supply and d.c (battery) power supply. Television serves as audio-visual electronic system because it combines or synchronize sound and vision at the same time, and television signals are able to travel far distances to reach the masses. Videophone system integrates computer and television systems to enable people in different locations to communicate with one another, seeing each other faces and so it is an electronic device that can be used in teleconferencing in advancing education. Telephone can be used to communicate and obtain useful information for development.

### **Conclusion**

Generally, quality education is great resources for national development for it pertains to effective and efficient empowerment of people for individual and social development. So, quality education established in rural areas in Nigeria will go a long way in ensuring rural development, which is an integral part of national development. Quality education demands provision and use of resources needed for effectiveness and efficiency in education system. An electronic resource that will serve for intellectual empowerment and productivity for quality education aimed towards achievement of rural development is information and communication technology (ICT).

ICT is concerned with the use of electronic devices, especially the computer and Internet, for communication. ICT is among the electronic technology that influences modern society because of its advantageous nature. The gains in the use of ICT make it a useful resource that can be utilized for quality education.

Thus, for empowerment of intellectuals in rural areas of Nigeria, the provision and use of ICT will not be neglected. ICT resources should be well available in schools, and teachers and students should be well conversant with use of ICT for manifestation of quality education in rural areas.

### **Recommendations**

To ensure adequate use of ICT in rural areas for promotion of quality education in Nigeria, it is recommended that:

- ❖ Intellectuals involved in education in rural areas should develop great interest in use of computer, internet and other ICT devices needed in intellectual enhancement.
- ❖ Intellectuals in Nigeria should observed moral values in the use of electronic devices and systems so to avoid any form of crime that will inhibit rural development.
- ❖ Government should supply enough equipment used in ICT to institutions of learning located in rural areas in Nigeria.
- ❖ Power supply authority in Nigeria should provide consistent and enough electrical energy for operation of ICT devices used in education.
- ❖ The Nigerian populace should be enlightened on the gains in the use of ICT in education so as to give necessary support towards its use in rural areas.

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