

INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) IN PRIMARY/TEACHER EDUCATION

IBRAHIM HAUWA LARAI

Department of Primary Education Studies
Federal College of Education, Kano

ABSTRACT

Education world wide experienced many changes in the last century, but none of this is as proposed as the effects of Information and communication Technology (ICT). The internet and in particular the web, now provide much wider access to information of new instructional possibilities. The paper discussed the ICT in general term., the concept of primary education, goals of primary education and what is ICT goals and uses of ICT in Nigeria, the role of teacher in enhancing ICT education in Nigerian primary school. The growth and importance of this in the global world cannot be over stressed despite its potentials to help the developing world leapfrog into the new millennium, only very little has been achieved by this technology in Nigeria. It also looks at education through ICT, challenges of ICT in Nigeria. Suggestions were also given toward improving the teaching of information technology in our school. Young software developers should be trained and supported with the necessary equipment to develop national usable e-education software.

Introduction

The term I.C.T in primary/teacher's education evolves a myriad of thoughts on various aspects starting from role of technology in teachers education. I.C.T. as part of curricula in teacher education, training teachers in (the use and Integration of I.C.T. to facilitate learning to children. In addition empowering I.C.T teachers to choose appropriate technology. All these though presuppose that I.C.T in teachers education means preparing teachers in the use of ICT to supplement their teaching. Also make them understand the development of technology to the perspective of an effective pedagogical tool.

However, another equally important use of I.C.T. would be its use for the capacity building of both pupils and the teachers. The capacity building is not restricted to improving the I.C.T. skills of the teacher but more importantly the intention is to improve the I. C.T. technology to build the professional competence of teachers and pupils, to develop their proficiency in the class room management practices to enhance the quality of institutions.

The current education system in Nigeria has a number of infirmities that remain despite number of attempts to cure the same over that past few years. Efforts have been made to enable access Incentives in children from the disadvantage section to regularly attend schools. The quality of education in most government schools is abysmal.

Everyone accept that though there are several factors that Influence child having the critical crucible of learning is still class room and the teaching learning process as well as the teacher constitutes the most critical part of learning for the child, Educationist often emphasizes the need for child centre interactive, experimental, integrative, participative and self placed learning process that also provides a joyful experience to die child. Deployment of I.C.T is one of such strategy.

Concepts of Primary Education

Primary education is education given, in an institution to children aged 6 to 11 plus (N.P.E 2004) since the rest of the educational system is built upon it, primary education is the key to the successes pursuance of the above objective, government has made primary education free and universal by implementing the universal primary education U.P.E - scheme in September 1976. The Universal Primary Education gave birth to Universal Basic Education which aimed at total eradication of illiteracy in the country. To achieve the goals of the Primary Education, government welcomes the contribution of voluntary agencies, communities of private individuals in the establishments and management of primary schools along side with those provided by the state government as long as they meet the minimum standard laid down by die federal government (FRN, 2004)

Goals of Primary Education

The National Policy on Education (2004:14) gave the goals of primary education as follows:

- a. Inculcate permanent literacy and numeracy of ability to communicate effectively.
- b. Lay a sound basis for scientific and reflective thinking,
- c. Give citizenship education as a basis for effective participation in and contribution to the life of die society.
- d. Mould the character to develop sound attitude and morals in die child.
- e. Develop in the child die ability to adapt to die Childs changing environment.
- f. Give the child opportunities for developing manipulative skills that will enable the child function effectively in the society within the limits of the child capacity.
- g. Provide the child with basic tools for further educational advancement, including preparation of trades of crafts of the locality.

These goals form the basis of primary education in all states of die federation.

Concept of Information and Communication Technology (ICT)

Information and Communication Technology are the computing and communication facilities and features that vigorously support teaching, learning and a range of activities in education. Information and Communication Technology (ICT) have potential to enhance access, quality and effectiveness in education in general and to enable the development of more and better teachers in Nigeria in particular.

As computer hardware becomes available to an increasing number of schools, more attention needs to be given to the capacity building of the key transformation in this process. Teachers of I.C.T are the major factors shaping the global economy and producing rapid changes in society. They have fundamentally changed the way people learn, communicate and do business. It can transform the nature of education, Information and Communication Technology includes the full range of computer hardware, Computer Software and telecommunication facilities.

From ₦200.00 handheld calculators to multi million Naira Super Computers, it includes the full range of display and projection devices used to view computer output. It includes the local area and wide area networks that allow computer systems and people to communicate with each other. It includes digital cameras, computer games, CDs, DVDs, Cell Telephones/Telecommunication Satellite and fiber optics which include computerize instruments; computerized robots.

Goals and Uses of ICT in Nigeria Education

The National Policy on Education (NPE, 2004: 24) promised to "provide necessary infrastructure and training for integration of ICT in the school system in recognition of the role of ICT in advancing knowledge and skill in modern world.

The National Commission of Colleges of Education (2001:8/19) has enumerated the goals of ICT in education programmes as:

1. To enhance a better quality education for staff and students in all relevant subject areas
2. To facilitate avenue where students through out Africa may work together over the; internet
3. To make current relevant journals and books available to all at affordable cost.
4. To improve the education and pedagogical competence of teachers at all level through specially designed modular placed on the website.

In Addition to the goals of ICT enumerated above, the uses of ICT in education also were enumerated by the National Teacher Institute (2004:4/19).

- a. To support conventional classroom work.
- b. ICT is particularly useful in research as it gives access to a world of, resources, especially in electronic.
- c. ICT can apply a key role in administration, students' data, personal administration, purchasing and supplies; advertisement etc can be handed with ease using ICT.
- d. ICT makes learning more vivid and encouraging.
- e. ICT can assist the teacher in assessment and testing.
- f. The virtual library "stocks" electronic versions of books, journals, newspapers, magazines etc, can be exchanged through the ICT
- g. ICT resources can help in the design and development of learning materials.

Roles of Teacher in Enhancing ICT in Education

The following are some of the various levels of programmes a teacher can be of relevance to:

Organizing ICT Activities: Teacher's participation in ICT education can be enhanced very well by organizing various ICT activities, such as seminars, workshops and conferences. In addition, a teacher can as well organize ICT talks day whereby some notable professional ICT experts form different areas such as Data processing, edit,

storage, communication, telecommunication, and information etc, can be invited to deliver talks that will boost the intellectual capabilities of our students and even teachers in daily life activities thereby leading to enhancing ICT education in Nigeria.

Engaging in New Technologies: The teacher can engaged in new technologies not only internet, but other instructional resources and tutorial on networks, more fundamentally facing new types of learning involving collaboration, communication, presentation, publication, sharing and above all reflecting on his own work and teaching processes, all geared toward higher sense of productivity that can lead to creativity from both the teacher and the learner for enhancing ICT education in Nigeria

Advancement of Education: It is the duty of a teacher to organize or participate in organizing ICT programme that may include the following:

- a. A computer day or week, where activities dealing with computer will be done through out the day or week so as to show to the students the significant of computer operation.
- b. Extra-mural classes for candidates writing various examinations related to ICT areas for encouragement.
- c. Adult mass literacy classes in ICT both for teaching and non staff including community members.

Science and Technology

In the present world of science and technology, the teacher can organize or participate in organizing computer training centers where the members of the community can acquire computer literacy (Olayiwola, 2003) this can up grade the level of people awareness on the significant of ICT for a life problems solving thereby also leading to the enhancement of ICT primary/teacher education in Nigeria.

Clubs/Societies Enhancement:

Various clubs and societies of students can be set up by different schools or teachers in order to enhance the moral, social and political development of the students in general. The teacher can participate in such clubs and societies to relate ICT to their moral, social and political development in a current science and technological era which left no area untouched.

Supporting Free ICT Education:

The teacher can support free ICT education for the youth. This can be done through assisting in direct or indirect sponsorship and scholarship programmes. School authorities, governments (local, state and federal), and various bodies and organization within and outside school should assist the teacher in order to function well in this direction for the learners to reap the benefits of ICT for Sustainable Educational National development. (Senthil M. K. (2008) National Policy on ICT in schools education).

Education through ICT

Education through I.C.T. involves combining computers, the internet, educational software tools for design and production of Hypertext Markup Language (HTML) papers and re-examination of pedagogical and pedagogical philosophy of methodology. ICT tools and process are dramatically changing the relationship between teachers/learners, and will continue to do so in ways that we cannot yet imagine.

Using I.C.T in education means more than simple teaching learners how to use computer technology is a means for improving education and not an end in itself. I.C.T. should also be used to promote information literacy. The ability to access use and evaluate information from different source in other to enhance learning, solve problems and generate new knowledge, one aim of education is to be able to help learners become more independent and effective information seekers and critical users.

Looking at Educational perspective of technology, parental feedback indicates strong demand in I.C.T. to be included in the schooling process. Information technology to strengthen the efforts for Universal Primary Education, it will have a number of application ranging from global access to knowledge to self based placed learning for children, Information technology could also be the solution to a uniformed high quality of instructions without replacing the teachers or reducing the flexibility of the teacher in any manner.

- Technology helps to create better culture of learning.
- It benefits learner with special educational needs.
- In the long run ICT. help to attain global access to knowledge sharing of experience and best practices, consistent higher quality educational possible; self placed or self based learning or effective learning for solid fundamentals

early in learning life cycle through:

- Virtual world of Information
- Simulation
- Experimental learning. (Senthil M. K. (2008) National Policy on ICT in schools education).

Why Primary Education should be directed toward ICT System?

- ⇒ Information of communication technology is a necessary condition In order to enhance the education of our young ones who are going to be leaders of tomorrow.
- ⇒ Attracts children to school, creating excitement in and around the school, Stimulating difficult concepts thereby making learning exciting of fundamental strong.
- ⇒ Enhancing teachers subject of pedagogical knowledge.
- ⇒ I.C.T provides a wide range of aids to the personal professional/work of; teacher's e.g. lesson plans and pupils note are stored as word processor files. It can easily be modified and brought up to date.
- ⇒ Electronic grade books that improve provision for seating charts, pictures of pupils, automatic e-mailing of reports to pupils/parents etc.
- ⇒ Test generation software including databanks of exam questions. (Senthil M. K. (2008) National Policy on ICT in schools education).

I.C.T Challenges in Nigeria

Although I.C.T. holds great potentials in supporting and augmenting existing education as well as national development efforts in Nigeria several challenges remain. If these challenges are not addressed the effectiveness of any I.C.T. reconstruction may not be achieved.

- ⇒ Availability of constant electricity for sufficient duration to ensure usage.
- ⇒ Availability of education technology specialist and good instructional designers.
- ⇒ Infrastructural uptime in the rural areas e.g. computer hardware and software. Computer system up to date computer-software for learning/training computer-laboratories connected to a Local Area Network (LAN) internet access equipment like VSAT or spread spectrum radio etc. (Senthil M. K. (2008) National Policy on ICT in schools education).

Freedom for state to pilot innovation models- Resistance to exchange from traditional pedagogical methods to more innovative technology based teaching and learning methods by both teachers and pupils.

The overall educational system is under-funded, therefore, available funds are used to solve more urgent and important survival needs by die institutions. There are no sufficient funds released for die education system.

Conclusion

The provision for I.C.T. access and educational sound I.C.T. training programme can only have the required impact if the public administration fully support this major transformation respective government needs to look carefully into the necessary prerequisite and consequence of I.C.T integration at the level of curriculum development, the examination system and teachers incentives among others, efforts are needed to mainstream I.C.T. appropriately in all subject curricula.

Recommendations

- ⇒ Policy makers and government will work within civil society and private sectors to develop a multi-sectoral approach to develop that effectively harness the potential of I.C.T, to promote more effective process including the promotion of transparency and accountability.
- ⇒ I.C.T. education should be included in the education curriculum including die provision of necessary infrastructural support and massive training and development of skilled manpower in our school.
- ⇒ Young software developers should be trained and supported with the necessary equipment to develop national usable e-education software.
- ⇒ The various government educational coordinating agencies should work together to develop an integrated broad based model/strategy for I.C.T, education with a definitive futures for its completion.
- ⇒ Government should increase funding for entire educational sector with particular emphasis on I.C.T.
- ⇒ Provide training programmes for teachers.

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