

EFFECTS OF NEW TECHNOLOGIES (ICTS) IN CLASSROOM  
INSTRUCTION IN THE 21<sup>ST</sup> CENTURY

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## **Abstract**

The paper focussed on Information and Communication Technology (ICT) in the 21<sup>st</sup> century classroom instruction. The writer noted that the evolution of ICT has brought new innovations into education sector which made it easier for the teacher to teach and interact with the learner, reduce abstraction; verbalization and the learner comprehend knowledge with ease. The paper indentified the benefits and limitations of ICT in the teaching learning process. The paper recommended that because of the importance and power of these technologies in enhancing knowledge and national development, government should increase funding for adequate supply of basic learning facilities both in quality and quantity eg computers, educational projectors and internet connectivity among others from primary to tertiary levels of education. Furthermore, for effectiveness on use of these technologies there should be constant source of energy to operate the devices such as provision of electricity or standby generators in schools and motivation for school inspectors and teachers and periodic training and retraining of classroom instructors.

## **Introduction**

The use of information and communication technology is becoming an integral part of education and many parts of the world. Nigeria is not left behind as ICT is gradually finding its way into the educational system despite the limitations brought by economic disadvantages (Nwachukwu, 2006). Information and communication technology ICT is defined as computer based tools used by people to work for information communication processing needs of an organization. It encompasses computer hardware and soft ware, the network and several other devices (video, audio, photography, camera etc) that covert information (text), images, sound and motion and so on into common digital form (Yusuf and Onasanya, 2004). Yusuf, (2005) defined ICT as an electronic application of computing, communication, telecommunication and satellite technology.

ICT in education simply mean effective ways of passing academic instruction, storing, retrieving, coding and decoding of information for better understanding of the learner and easy illustration and teaching by the teacher. Adebayo (2007) describe ICT as tools and processes used to access, retrieve, store, organize, manipulate, produce, present and exchange information by electronic and other automa~~ted~~ means. These include hardware, software and

telecommunications in the form of personal computers, scanners, digital cameras, phones, faxes, modems, CD, DVD players and recorders, digitalized, radio and programs like data base system and multimedia applications. Ogunsola (2005) stressed that ICTs can be used to access global knowledge and communication with other people. The Federal Government of Nigeria in recognition of the prominent role of Information and Communication Technology in advancing knowledge and skills necessary for effective functioning in modern world stressed urgent need to integrate ICT into education in Nigeria (National Policy on Education (2004)).

There are many problems facing education sector in Nigeria. Davis (2010) revealed that through ICTs classroom instruction could be solved. Some of the problems facing classroom instruction are; over-crowded classrooms, shortage of qualified teachers, inadequate funding, ineffective teaching methods, rote learning, insufficient school facilities among others. Most of the above enumerated problems facing education and classroom instruction can be solved through ICTs. Abdullahi (2003) pointed out that the need for instructional media is inevitable and teachers in this technological age 21<sup>st</sup> century need to strive to meet up with new innovations. Teachers are supposed to be innovative, creative and resourceful in order to meet up with the challenges of effectiveness in educational processes.

Nsofor (2010) noted that excellent education policies are useless unless there are equally excellent measures to see to their realization. The author added that it is not enough for the teacher to prepare and plan his lesson, what matters most is for him to be able to present it to the class in order to sustain the learners' interest and bring about effective teaching and learning. Mangal and Mangal (2013) remarked that it is important that teachers should use varieties of instructional media. Instructional media are powerful weapon for effective teaching and learning if the right types are used and at the right time. They have the potentials to change the status of learners from passive listeners to active thinkers and participants in the

teaching learning process. According to Kankaaranta (2005) meaningful and effective teaching and learning can hardly take place if classroom is deprived of instructional materials. It is in this regards that scholars of educational technology now lay emphasis on the acquisition and utilization of instructional media (ICTs) in order to enhance smooth running of classroom lesson and to promote school education system at all levels.

### **Benefits of ICT in Classroom Instruction**

Technology as product of ICTs today makes problem solving much more possible for man in all fields of life and especially in the area of communication and of-course education at all levels. Educational technology is the application and organization of people, methods, techniques, equipment and materials systematically in order to solve teaching and learning problems as well as improve on education system worldwide (Delhin, 2012). Though educational technology is relatively new but still remains that the successes which the field has attained within its short time of evolution has gone a long way to helping both teachers and students to acquire effective teaching and learning.

ICTs cater for individual's academic needs and abilities through the use of modern instructional technology such as computer assisted instruction (CAI) and programmed instruction (PI) in a textual form, individual learners' progress with their study at their own pace, rate and convenience. Furthermore, instruction becomes more interesting and meaningful as a result of the application of educational media in classroom teaching and learning. Learners' are given the opportunity to come in contact with what they are taught and the lesson becomes livelier.

The utilization of ICT facilities in classroom such as radio, instructional television and newspapers in teaching and learning provides equal opportunity for learners' irrespective of their socio economic status and location. ICTs brings about immediacy in learning as students

learn on the spot by adopting the use of already prepared and produced instructional materials like slides, films, video-tape, audio cassettes, charts and books.

Students who use ICTs gain deeper understanding of complex topics and concepts and are more likely to recall information and use it to solve problems. In addition, through ICT, students can deepen their knowledge of investigation and enquiry according to their needs and interest.

### **Limitations of ICT in Classroom Instruction**

#### **Poor Funding of Education:**

Okon (2003) stated that graduates from Nigerian universities have fallen below international standard because of lack of application of modern technology devices in teaching and learning such as computer and internet connectivity. The author explained that the few qualified manpower in the nation's university are not adequately catered for resulting in their exodus to foreign land (beside the in-ability of government to bring Nigeria experts in specialized disciplines back home to teach and research in our universities). This attitude of staff exodus is largely attributed to poor remuneration simply referred to as brain drain syndrome. It is in the light of the above problems that Francis Bissong (2009) professor in geography and deputy Dean post-graduate school, University of Calabar called on Nigeria government to reverse its non-interest on education and pay adequate attention to the sector through realistic funding as one of the most important area responsible for the rapid advancement of any nation.

#### **Power Supply:**

A major source of concern in education industry in line with technology application in our classrooms is inadequacy of electricity supply to enhance the operation and maintenance of

the available instructional media in our institutions of learning in Nigeria. In (2007) when late president Umaru Yar'adua assumed office, in his median broadcast to the nation he said 'our plan is to lunch a national emergency program on power supply'. Unfortunately, the sector has not witness any meaningful change to this moment in spite of Nigeria's position as the 6<sup>th</sup> largest producer of crude oil in the organization of petroleum exporting countries (OPEC) and 5<sup>th</sup> largest US source of imported oil and 8<sup>th</sup> worldwide crude oil producer. It is indeed pathetic and even more worrisome because the nation cannot boost of stable and affordable power supply to put into use the available technological media that aid or support teaching and learning in our classrooms and also take care of other economic activities that enhances development. In addition to the challenges of teachers, schools and the education system described above, making technology a force for learning and positive change in our schools poses serious problems to the society.

### **Conclusion**

Based on the write up in this paper it showed that Information and Communication Technology (ICT) has become imperative and a major tool in addressing educational problems such as school enrolment and effective classroom management in the 21<sup>st</sup> century and the rapid advancement of nations the world over. It therefore holds that, for effective classroom communication in the Nigeria schools and the society at large, government need to stuff schools with relevant learning facilities at all levels of education if she must catch up with other developed countries of the world such as United States of America and England.

### **Recommendations**

The following recommendations were made on the application and use of modern instructional facilities (ICTs) in the classroom. If adhered would promote teaching and learning in our schools and classrooms as well boost knowledge of students. Government

should increase funding to purchase and maintain some of the ICT equipment and also organize workshops on periodic basis and the retraining of teachers including in-service programmes to update their knowledge and skills on application of ICTs in classroom instruction as well as keep them abreast with latest innovations in the field of teaching and learning. Supervisors of schools and teachers also need to be motivated to enhance productivity.

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