

## **Access and Strategies for Quality Effective Instruction and Learning of Computer Education in Adult Education Programme in Nigeria**

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### **Abstract**

The importance and effectiveness of Computer education to a developing country like Nigeria cannot be over emphasis. No nation can hope to be self-reliant without getting aligned with the glaring and exciting global communication trend. Through computer education many made people all over the world can communicate without physical contact but through the development of telephones, computers, telegraph means of communication become easier. The integration of computer studies in educational institution, by the Federal Government is a good step to achieving this global trend. This type of educational measures is to prepare learners and potential instructors/teachers focus on the significance of computer, but this is glaring that what we are witnessing in Nigeria today is haphazard approach to the subjects of computer education while prospective instructors are presented with a "show and tell" of computer capabilities, where Adult learners are taught computer without computers or one computer to 35 learners. This paper therefore examines information and communication technology strategies for accessing and improving the instruction and learning of computer studies in Adult Education programmes. In the light of recent introduction of computer

education in to the national policy on education which will be able to bring about desired learners behaviors, ability, habits, **and** characteristics, a system where instructor are embedded with personal qualities **of** communication skills and adequate instruction method and a system that will bring about sound adjustment to the Adult learners in the society to which he /she belongs.

### **Introduction**

The world currently is in a paperless age through the use of computers most especially in developed countries. For developing countries like Nigeria, computer education becomes very crucial and relevant. For Nigeria to integrate and sustain herself in the information technology era, she needs to train people who are able to apply technological skills relevant to information technology, monitor technological trends and Keep abreast of new developments in this area. It is in the realization of the pertinent utilization of the computer and how substantially it has contributed to socio-economic and human development of all the industrialized and developed countries of the world that the Federal Government of Nigeria began to lay emphasis on computer education in all level of education, adult education inclusive. Thus, in 1987, an ad-hoc Committee was set up by the federal government, which finally produced the National Policy on Computer Literacy. The policy document was made for both formal and non-formal sectors by the National University Commission (NUC, 1987)

For the Non-Formal Computer Literacy Programme which is the focal point of this paper, is expected to achieve the objectives of:

- (a) Increasing the number of computer literate citizen in Nigeria.
- (b) Increase the level of computer appreciation among young people especially with regards to the potentials of the computer.
- (c) Enable young people to acquire and utilize computer skills in computer operations in various aspects of life and occupation (NUC, 1987:13)

Computer is finding its way into the school system as

instructional Material for individualized education programme, record keeping and management processing data and retrieval of information and decision-making. One may ask “what is a computer.”? Fundamentally speaking, a computer is nothing more than a device that ‘computes’ it may be mechanical or electronic, simple or complex in operation, it has the capability to solve a problem from start to finish without human intervention. It is this self-directing capability more than any other, which differentiates a true computer from other machines that perform data processing. (Jay, 2007)

The impact of computer has continued to improve the standard of average citizen in the developed and developing countries, it’s because of its relevance to National Development that necessitated its function and inclusion into the curriculum of the primary and secondary schools in the technologically advanced countries. Three major objectives have been identified for introducing computer studies at these levels;

- a) To learn how to use computer
- b) To learn about computer with a view of choosing a career in the computer related profession
- c) To expose learners to other use of computer such as word processing, publishing, spreadsheet etc

In the light of the above mentioned points, (Jay, 2007) opines that there are four levels of computer education, at the simplest level there is introductory, which is mostly known as ‘introduction to computer’ designed simply to allow the beginner to become familiar with the language, general implication and importance of computer. Then there is another level that could be called ‘application’ here the learner is put through some application packages such as word processing, spreadsheet modeling, database handling, communication and auto card designing package for engineering. Thirdly, there is computer studies designed to give the student a thorough and general grounding in the ways computers are used which could be called ‘operating system’, This is the method currently used in most educational institutions in Nigeria. Unfortunately, this sometimes appears to be an exercise permanently out of date as new developments rapidly and

radically alters practical norms. Lastly, there is the specialized discipline of computer studies, which often overlaps and is organized together with the related disciplines of mathematics, physics, engineering and architecture. Thus this basic skills acquired by the student in secondary school would help them to contribute their own quota to the technological development of Nigeria.

However, it is believed that if Learners are involved in all the practice during their course of study and efforts are geared towards letting the Learners appreciate and participate in every aspect of the teaching and learning processes, a lot will be achieved to improve student's interest in learning computer science. This approach will offer student the opportunity to enter computer occupation on completion of their secondary education if the need be.

Apart from looking into "strategies for improving the teaching and learning of computer studies", it offered a critique of current practice in computer studies in Adult Education programmes and proposes suggestions for change especially in the light of the recent introduction of computer education into national education policy Adult Education inclusive.

Government's commendable efforts are reflected in putting in place a National Policy on Education (1998, 2004) and introducing Information and Communication technology (ICT) into Education system, in the fulfillment of the great National goal of;

- a free and democratic society
- a just egalitarian Society
- a united, strong and self-reliant nation
- a great and dynamic economy
- a land full of bright opportunities for all citizens

### **Concept of Adult Education**

The concept of "Adult Education" has been viewed differently in terms of interpretation and perception. To some, it simply means any teaching or activities that is tailored toward the adult (Anyanwu, 2006 and Erheriene, 2002) perceived Adult Education as educational process organized for learner's outside the formal educational system". The implication of this is that, any learning activities such as apprenticeship,

vocational training, community development programmes, reading, writing and arithmetic and so on, are regarded as Adult Education. It was also the view of UNESCO [1997] that adult education is concerned with the development of personal abilities and aptitude, the encouragement of social, moral and intellectual responsibility in relation to local, national and world citizenship.

This implies that adult education must impart knowledge of both the narrow and the wider environment in which people live, a knowledge of the world of the arts and skills that exist, an ability to think and reason, an ability to understand, to participate, to lead and an ability to adjust to change as it occurs (Anyanwu, 2006, p. 17).

### **Computer Education Situation in Nigeria**

The present situation of computer education in Nigeria today poses a great challenge especially in the 21st century, an age when science and technology has become part and parcel of the world culture. It is unfortunate that most of the instructors in our secondary schools today do not know and cannot use computers, some are being presented with a "show and tell" of computer capabilities, a little about in most things computer can be used for which may spark their interest but provides it with no depth or insight and this approach will typically tell the sort of course they in turn will offer their Learners.

The orientation "this is computer" offers a haphazard approach to the subject of computer in education, which is a glaring example of what we are witnessing in Nigeria secondary schools today. The Learners are taught computer without computers, there is one computer for over 50 Learners in a class, Learners hang on one another in order to catch a glimpse of what is being talked about.

### **Student's Perception of Computer Studies;**

It has been observed that many Learners do not show interest in computer study. This is probably due to poor orientation of the subject and thereby acquire the necessary skills for the practical aspect of the study. It could also be attributed "the poor teaching techniques of the teacher and lack of proper skill and knowledge. Learners see the subject as a foreign subject and it is only special

ones or gifted people that can do it accurately, the schools have ended up producing unskilled Learners in the course.

It is in the light of these that possible strategies for improving the teaching and learning of computer are outlined. It is specifically designed to identify;

- 1) Skills, methods and techniques required for computer education instructors for effective teaching and learning.
- 2) Factors that can stimulate Learners interest in learning computer.
- 3) Role instructional materials, equipments and facilities could play in effective teaching and learning of computer studies.
- 4) Learners' input/activities, which will enhance effective learning of computer studies.

**Techniques/Strategies utilized by Instructors for Effective Assess and instruction:**

It is observed that no single technique or strategy is regarded as the lowest or highest for every teaching situation. Therefore, for effective teaching to take place, the teacher has to use different strategies and techniques.

According to Olaitan (2004) teaching strategies and techniques to utilized must be relevant to teaching of vocational subjects including computer education or studies. He further explained that the lecture method might be used where necessary but the development of skills are the most appropriate. Torrance (2008) opines that the teacher's personality, resources and skills, the need and ability of this pupils and the expectation of the community in which he teaches determine what ways of teaching will be most appropriate. However, there are some teaching methods that call for learners' participation more than others. In order to achieve a successful use of a method of teaching, the teacher and the learner must possess certain attitude, which we are required to measure up well in the use of such method such as self-assurance, respect for one another, poise, tolerance, orderliness in face of diversity.

Project method helps the Learners to work together on selected plans, Skinner (2003) defined project method as a natural life like learning activities involving the investigation of small group. Barden (2004) in his experimental evaluation of lecture and project method

found no single method of teaching representing a distinct advantage by itself; combination of the methods proves to be more effective, project method should be used to supplement lecture method.

### **Factors that can Stimulates Interest in Learning Computer Education:**

Interest arouses the desire to learn and motivates learning. For a student to develop interest in computer studies he must be motivated, it is the primary role of the teacher to create interest in the student.

According to Richardson (2009) 'a friendly teacher generates interest of the Learners in his subject', supporting this view. Caldwell (2004) stated that when student motivation for entering the class is strong, the teacher's problem in the development of Learners interest tend to minimize, the Learners becomes interested in their own leadership amid development' Onyike (2005) also stated that the principle of learning takes place more effectively when interest is inherent in the materials to be learned. However, it must be emphasized that individuals are not endowed with interest rather are developed. Hemp (2006) said that interest develop as a result of contact, familiarity, personal challenges and experience of success.

A better part of the job of developing interest in Youths lies in the hand of the teacher. There is need for the teacher to develop the attitude and interest in computer education and achieve its objectives, which entails developing a specific mind in each student.

Olaniya (2004) observed that when schools lack educational facilities, they provide any type of education without quality and when quality is lacked in school, it is likely that the academic performance of the Learners will also be poor. Also Abiri (2001) pointed out in his study that instructional materials or teaching aids of various types are of tremendous importance in increasing student's interest in learning at any subject level. They also provide motivation. Brown (2006) agrees that optimum learning occurs when many different types of instructional materials are used, each of its own valuable but make necessary unique contribution.

**The Role Instructional Materials, Equipment and Facilities could play in Effective Teaching of Computer Education in Adult Education programme:**

The use of equipments in teaching and learning situation will not only save instructors time and stimulates Learners interest but it will also increase retention of knowledge since most learners remember what they see, hear and read longer than what they only read. Gross (2008) supported this view when he stated that man from the beginning has favored audio-visual learning. Primitive man learnt to hunt, to fight and acquire the other elements of his informal education by initiating that which he has seen done. Furthermore Inveso (2007) has recommended time use of instructional materials in the schools for effective teaching, he emphasized that attention should be paid on of audio-visual aids in teaching in order to stir the spirit of observation, enquiring, experimenting and finding out facts. Teaching methods with audio-visual aid and learning materials used are all crucial to the learning process. Taylor (2008) is of the opinion that 'equipment can help a majority of learners to comprehend some aspect of that material faster and more accurate thus computer enhances the educational productivity in teaching student to be creative and think critically.

**Learner 'Input and activities', which could enhance Effective Learning of Computer Studies**

Despite the role in which instructional materials/facilities play during teaching and

Learning situation, Learners have better roles to play. Learners' participation in workshop or laboratory activities are very important in computer studies, there is need for the Learners to master the subject and possess the appropriate skill since computer studies is all about acquisition of practical and applied skills as well as basic scientific knowledge. Therefore, student's participation in the laboratory or workshop activities will make the standard for entry into employment after graduation.



### **The Aims and Objectives of Computer Studies in the System of Education:**

According to Skinner (2003) computer education is a system of skills acquisition in the use of computer to solve problem. Here computer education is seen; as a subject organized to enable people understand the function, uses and limitations of computer and to provide opportunity for the study of the modern method of information processing. It is an academic subject because it encourages an understanding of the studies implication. Computer study was entrenched in this system of education in 1998 with the following aim and objectives:

- 1) to produce manpower that can be trained on both software and hardware development.
- 2) to produce competent engineers that can repair and service faulty components
- 3) To provide experts that can make use of computer in the field of pure and applied science, engineering and research work.
- 4) To develop scientific attitude and scientific ways of planning, observing and working through experience in problem solving.
- 5) To develop an appreciation of the contribution of computer to man.

Computer study is a program that is geared towards the fulfillment of the need for personally qualified instructors who can impart their technical knowledge and vocational skills to their Learners and thereby contributing to the economic development of Nigeria. Graduate of the programme will be able to teach science related subjects in the secondary schools

### **Constraints on Effective Teaching and Learning of Computer Education in Nigeria**

Several problems face the effective teaching and learning of computer education in Nigeria; some of these are identified and discussed below:

- (a) **Lack of Electricity supply for effective use of Power Facilities and Equipment:** It has been observed that some schools have been provided with electricity supply and many have not gotten the opportunity to be connected with power line.

Olorunselu (2002) rightly observed that most those schools and Adult education training centres in the rural areas do not benefit from the computer programme introduced to the schools because of lack of electricity supply.

- (b) **Instructors Qualities and Effectiveness:** The computer education teacher is a subject matter specialist and has major influence in a sound computer education programme, but unfortunately, schools and our Adult education centres are scarcely provided with this qualified instructors and this is one of the barriers in effective teaching and learning of computer education in secondary level of education and Adult education centres. In recognizing the need for instructors to be competent, Hemp (2006) stated that 'successful instructors must know the subject matter, but a mastery of a subject matter of itself does not insure success in the classroom'. He further said that "in order that people may be happy in their work, these three things are needed, they must be fit for it, they must not do too much of it and they must have a sense of success in it. However, it is observed that programmes in computer education may be planned and equipment are provided but lack of competent instructors to man the classrooms and laboratories thwarted the effort. Dedicated, enthusiastic and committed instructors are needed at the secondary school level of education and our Adult education centres so that those instructors will not kill the interest of the Learners in learning computer. Instructors who have the skills and the technical knowhow are needed to improve the teaching and learning of computer education.
- (c) **School Management:** The implementation of the new National Policy on Education require dedicated leaders who understands thoroughly the effective means of school management, according to Okoro, (2003) the philosophy behind the policy is to provide effective management team that are capable and willing to give directions in order to ensure that the aims of the policy are achieved. It is the duty of the principal and centre Managers to effectively communicate the identified problems to government, so that the nation can achieve the expected benefit of the new policy. He is also in

the best position to assist the Learners in every aspect of their vocational career in the school.

### **Ways to Improve Computer Education In Adult Learning Centers**

- 1) Ensuring that teaching and non-teaching staff perform their expected roles.
- 2) Requesting for adequate number of technical instructors from teaching service commission
- 3) Securing adequate facility and materials to Learners for demonstration/practical in the laboratory
- 4) Encouraging research, constant evaluation and improvement of computer subjects
- 5) Consulting computer instructors on regular base to know the problems they are facing in their various departments
- 6) Motivating and improving instructor's skills and effectiveness by giving opportunity for them to attend various conferences and seminar that are related to computer and computer science and education.

### **Recommendation for Effective Teaching and Learning of Computer Education In Nigeria:**

The following recommendations are made:

- 1) The federal government should take over the funding of computer education and give direct grants to the State Ministry of Education for the improvement of computer education at all level.
- 2) The Federal and State governments should organize periodic seminars, conferences, workshops for computer education instructors to update their knowledge in the modern computer innovations.
- 3) Institutions should recognize outstanding achievements of computer Learners by awarding them scholarships, prizes and certificates of honour.
- 4) Employment opportunities should be created by establishing industries and other Establishments where the graduates of

computer studies can work to increase or widen their experience.

- 5) Adequate instructional methods/strategies should be encouraged and used by staff.
- 6) The school administrators should always make adequate provision for training material equipment and facilities for effective running of the programme.
- 7) Apart from the internal supervisor, there should be instructional supervision by experts in computer field from the state and Federal ministry of Education on regular basis.

### **Conclusion**

It is important for Learners to develop a keen interest in computer studies. Their motivation depends on the use of appropriate strategies/teaching methods and adequate equipment and facilities in teaching and learning of computer subject. The role of improving the teaching and learning of computer studies lies in the implementation of all strategies mentioned in the paper, which is a collective function of the government, school Administrators, Teaching Service Commission and computer instructors. All hands must be joined together to utilized the strategies that have been mapped out with available resources to improve the' teaching and learning of computer studies in secondary schools and our Adult education centres.

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