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## The application of computer to education and other spheres of human Endeavour

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### Abstract

This study is concerned with application of computer to education and other spheres on human endeavour. Specifically, the study looked at the relevance of computer as a tool for Information and Communication Technology (ICT) and as productivity enhancing technology. Effort was made to review literature on computer for instructional output, general education, entrepreneurship, government and general use of computer for sustainable growth and national developments. Discussion was also carried out on the barriers and the way forward for future use of computer.

**Keywords:** Use; Computer Application; Computer Education; General Software; Human Endeavour and Instructional output.

### 1. Introduction

The relevance of computer in education is strongly supported by educators, researchers, and authors. Harold, (1981) noted that increasing technological sophistication of our society will require teachers to master an increase variety of complicated subject materials, master an increased set of sophisticated skills, and to perform skills at higher standard.

Chambers (2002) identified computer education as an extremely effective form of education, which assist lecturers to have a well-defined form of instruction. This is so because lecturers are able to respond to individual student's needs, adjust their instruction so that student's zone of proximal development provides instant feedback on progress.

Eras' in the history of human beings have witnessed a lot of investigations into how things can be made easy. These, called for more sophisticated technology and closely related sociocultural changes that can be found in the drift from one technology to another. The computers are classified into mainframes, mini, micro and super computers. The super computers are probably yet to find their way into Nigeria in large numbers, (Fapohunda, 1999). These types of computers are fast becoming the areas on which people's mind and the view of modern world hinges, because we are already moving into the 10<sup>th</sup> generation of computing system (Chamber, 2002).

### 2. The use of computer in education

With the creative rate at which uses are found for computer now in future, all forms of manual work would have been manipulated to require the use of computerized tools, machines, and equipment. This is evident in how computer education is currently allowing a large number of educators and students to participate in the world of computing for ease of output.

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The use of computer has also generated the quest for more ideas on how to diversify and improve productiveness in the administrative set up of institutions. In this area, it has been used in scheduling classes, budgeting, and managing applications and instructional outputs. In the area of communication, which is also a component of teaching and learning, Dede (1996) asserted that in as much as expression and communication are, based on representation like languages and imagery, the process of broadening the types of instructional messages given to students would enhance learning that educators can rely on.

The most applicable way to broaden the instructional messages is to apply the use of Computer Based Instruction (CBI), Computer Assisted Design, (CAD), among others. In fact, Ayeni (2003) added that students and teachers need computers to keep and produce records (i.e information storage and retrieval) about current events and other works. This is to say that student's notebook may no longer be needed in the nearest future.

Graham (1986) is of the opinion that even though financial and technical barriers debar execution works on computers with adequate knowledge of its use, education could be adjusted in favour of altering curricular, political and cultural output. If this is effectively done, there is no doubt that nation will develop the necessary manpower that is relevant for her growth.

Population records show that there are more people in the world than ever before, and greater part of them wants an education. To be able to cope with the desired need of educating the populace more efficiently, high-tech tools and equipment that can stand the test of time, such as the computer, which can help to learn at a faster rate, diagnose, and propound theories for complicated needs are desirable. (Olumorin, 2009).

In order to avoid a setback in achieving sustainable growth as a nation, there is need to avert becoming a victim of what is called digital divide. Digital divide is that, which refers to the dichotomy that may exist between a developing country like Nigeria and the nations that have IT policies built on reliable human resources and infrastructure. These policies, human resources and infrastructure constitute the fundamental tools and means of assessing, planning and maintaining developmental changes. It is in line with this that the Federal Republic of Nigeria (FRN, 2001) came up with the Nigeria National Policy for Information Technology (NNPIT) tagged "USE IT".

The FRN, 2001 (NNPIT) has education as the first major focus under the mission statement. It had under the general objectives, a strong focus on items XV, XVII and XXIV where it is stated. "To empower the youth on IT skills and prepare them for global competitiveness", "to integrate IT into the mainstream of education and training" and "to establish new multi-faceted IT institutions as centers of excellence to ensure Nigeria's competitiveness in international market".

In order to achieve the FRN, (2001) objectives certain policies were put in place to enhance quick implementation. One of such is the restricting of the education system at all levels to respond effectively to the challenges for the information age, particularly putting aside special IT fund for education at all levels.

The FRN, (2001) objectives, which are mainly educational, viewed it from a broader perspective. The strategies outlined under the human resource development include among others capacity building for stakeholders in the institutions and adequate financial provision for tools and resources. It is also outlined that relevant IT curricular for the primary, secondary and tertiary institutions be develop, and that "such curricula will be based on the number of students that failed the courses taught during the period of time (Anderson & Baskin, 2002).

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### **3. The relevance of computer to other spheres of human endeavour**

The use of computer is appropriate in other fields of human endeavour, for research studies and understanding of how educators acquire and transfer their knowledge of educational research and theory to enhance their practice. This is evidence in the following areas as enumerated by Fapohunda (1999):

- **Communication:** The networking of computers for tele-presence is on the increase, the presence of Cable News Network (CNN) can be felt in every part of the world, whereas, CNN probably has less than 30 offices in the whole world. The Nigeria Television Authority (NTA) Network programmes also use the same in their transmission. This is made possible by computer – assisted tele-presence.
- **Architecture and Engineering:** These set of professionals had always relied on draftsman's pencil, pen, ruler, and paper for their design. As a result of computer education through Computer Assisted Design (CAD) Architects and Engineering can quickly produce drawings of complex buildings such as skyscrapers in cities.

- Mathematics: In this area of study, educators and students have jettisoned the use of ready reckoners, slide rule, logarithm tables, and so on for the computer as tools for making accurate calculations with speed.
- Accounting: This is a profession that has probably benefited more than any other field from computer. Before the age of computer, the ledger, a book of spreadsheet, which forms an accountant's main tool for keeping records of finance, has been computerized. All accounting jobs such as payroll, appropriate national syllabus at the selected level and other global certificate syllabus, in addition to other government policy such as UBE, the digital library and the virtual university system for instance the National Open University of Nigeria (NOUN) course content and instructional strategies in Open Education Resources (OER).

There is hardly any area of education where the computer is not applicable. It only requires the science of designing and installing a program into the system, which can easily be assessed and processed for the desired output. It is for this reason that computer application is relevant to all fields of human endeavors (Olumorin, 2008).

The practical application of computer to areas of education could be likened to the application of the knowledge of mathematics to the sciences and social sciences such as Physics, Chemistry, Economics, and a host of others. Wright and Shade (1995) also affirmed that computer education has been shown to increase students' effectiveness in most software applications regardless of content matter or grade level. Onasanya (2002), for instance, administered software on 3-dimensional (3-D) animation production programme to a set of students, "When all attribute of computer animation products were considered students' exposed to computer instruction performed better in 3-D animation than their manual group counterpart".

An integral part of computer education focuses on the effectiveness of various means of teaching and learning, some focus directly on literacy as the key determinant of academic and work place success (Bures, 1996). For instance, teaching and learning using notebook computer was experimented in the University of Minnesota for a period of time, late coming students were restricted to a space during the hour of the day where there was no access to computers, students' access was limited for a large period of time during the day and evening classes and the doors were locked throughout the night. Students were encouraged to use their usual manual note taking. It was discovered that a large number performed better than students not exposed to computer. Income and expenditure records, profit and loss statements, budget summaries, among others are better done through accounting software on a computer system.

- Medicine: In this area, the major tools such as microscopes, stethoscopes, and x-ray machines have been computerized. All of these have been re-designed for a more detailed and extremely accurate diagnosis of illness. In addition, "surgical operations are now aided by computer- controlled laser equipment" (Fapohunda, 1999).

Other areas of high impact of computer include the making of maps of any part of the world even including street maps of major towns with Geographical Information System (GIS) software in geography. Office automation, also provide the opportunity of having Data Base Management Software (DBMS), which had the capacity to keep personal records, valuable information files, and even computer controlled photocopiers that can reduce, enlarge and print original colour works.

In manufacturing, computers have been specially applied to accomplish specific tasks, such as painting, welding, picking, sorting, and so on, by single mechanical arms called robots. Fapohunda, (1999) also reported that the car manufacturing industry is the largest user of robots, followed by electronic industry, and then the medical field.

In the area of sports, the stop clock used to be the tool for timing sprinters, in recent time, and with increasing fast runners, the stop clock became obsolete, computer controlled electronic timing and photo-finish equipment are now in common use all over the world.

Transportation has been made easier through many models of cars equipped with computerized parts to control brake system, dashboard operation, and lightnings. Air-crafts are now mainly air borne super-computers, with capacity to work automatically. In addition, spacecrafts that took men to the moon, in 1969, carried on board many computerized equipment. In the area of film production and entertainment, many special effects, illusions, and sets for movies were generated with computer. Finally, compact disc, flash drives, zip and other digitalize equipment have taken over from video recorders, record players, and cassettes that were analog.

#### 4. Conclusion

This paper discussed the relevance of computer to lecturers, students, government, curriculum developers, school administrators, professional organization, and researchers. Awareness of individuals who are ignorant of the capability of computer in assisting to ease teaching and research works should be drawn to the issue. Also, individuals should have positive attitude to the use of computer for the opportunity to access various information about ICT since processes and product, competence and productivity in their area of specialization.

Curriculum developers should identify educational programmes that require computer usage for effective productivity in harnessing the opportunity available in Internet browsing to update their knowledge. Also, it may assist them in re-planning and include aspects that can ease the process of teaching and learning. By this, they may be able to adjust the framework of the curriculum to accommodate Computer Assisted Instruction (CAI), Computer Assisted Design (CAD), programmed Instruction (P.I), among others. In addition, it may also help to improve the curriculum content of the tertiary institutions.

The government may need to update and make provisions for computer facilities and materials (hardware, software, and consumable) for effective utilization. In addition, they should assist in the development of special software and other educational programmes that could be used to ease teaching and research works.

Furthermore, the need for relevant induction programmes for all professionals in various areas of endeavour may need to be encouraged. It is by this that Information and Communication Technology (ICT) would be highlighted for improvement since computer is the major tool in ICT. This can be done by providing staffers with necessary computer infrastructures, research facilities and in organizing workshops and seminars to update their professional standards.

Finally, in line with the objectives stated in the FRN (2014) and the underlining needs specified in the FRN (2001), ICT has become an issue that must be considered when planning any educational programme at all levels. This may enable the country to fit into the realms of the developed nations in the nearest future.

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#### References

- [1] Anderson, N. & Baskin, C. (2002). Can we leave it to chance? New Learning Technologies and the Problem of Professional Competence. *International Education Journal*, 3, 126-137.
- [2] Bures, H. W. (1996). An axiological dimension of system analysis in education. A paper presented at the conference on New Dimensions for research in Education Media Implied by the Systems Approach to Education Syracuse University.
- [3] Chambers, B. (2002). Designing and Evaluating a Computer Assisted Tutoring Programme for Young Students At – Risk for Reading Failure Concordia centre for the study of learning & performance, Concordia University.
- [4] Dede, C. (1996). The roles of emerging technologies for knowledge mobilization dissemination and use in education. Washington. D.C., USA Department of Education.
- [5] Fapohunda, A. (1999) Introductory Computers Science for Children and Adults Beginners. Abuja, Aflon Limited.
- [6] Federal Republic of Nigeria (2001). National Policy on Information Technology (1st Edition), Lagos NERDC Press.
- [7] Federal Republic of Nigeria (2014). National policy on Education (5th Edition), Lagos NERDC Press.
- [8] Graham, N. (1986). Computers in Education. The mind Tools. Computer their impact on Society. (4th Edition) USA, West Publishing Coy.
- [9] Harold, F. (1981). Computer Based Instruction: A State of the Art Assessment London, Academy Press.
- [10] Olumorin, C. O. (2009). Lecturers Attitude to Competence in, and use of Computers in Tertiary Institutions in Kwara State, Nigeria, Unpublished doctoral dissertation submitted to the Department of Science Education, University of Ilorin, Nigeria.
- [11] Onasanya, S. A. (2002). Effects of Instruction in Computer Animation on Student’s Performance in 3-Dimension Animation. Unpublished doctoral dissertation submitted to the Department of Science Education, University of Ilorin, Nigeria.