

THE ROLE OF COMPUTER LITERACY AND INFORMATION TECHNOLOGY IN NATIONAL DEVELOPMENT

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Abstract

From 1995 till date, the quest for computer literacy has become the order of the day in all parts of Nigeria. Governments, at both Federal and State levels provide computers for their schools regardless of whether such schools have qualified computer teachers to teach them at all, or whether or not such schools have electricity for the operation of these computers at all. This paper therefore tries to see the role of computer literacy and information technology in national development hence the rush by federal and state governments in providing computers to nearly all their schools. Secondly, computer literacy has become a critical requirement in most interviews for employment today; this must be borne out of the fact that computer literacy is a vital ingredient for national development.

Introduction

Computers are increasingly becoming indispensable, tasks hitherto, done manually at homes, offices, industrial set up, are being automated on a daily basis worldwide. The computer with its characteristics of very high speed, large memory capacity, reliability, reduction in manual labor, and faster access to information, has received a universal acceptability in all fields of human endeavor.

Information technology cannot be discussed in the absence of the computer. The computer is the bedrock through which information is communicated round the world at the speed of light. It is against this backdrop, that this paper seeks to address the role of computer literacy and information technology in national development.

The paper is presented under the following sub-headings:-

- a) What is a computer?
- b) What is information technology?
- c) What is computer literacy, development indices, specific role of computer in national development?
- d) Suggestions and recommendations.

•A/ The Term Computer

The computer has been variously defined. Several of these definitions stem from their types, and what use they are put into.

Regardless of the type and what use they are put to, one thing common with every computer is its operational sequence of input, processes and output.

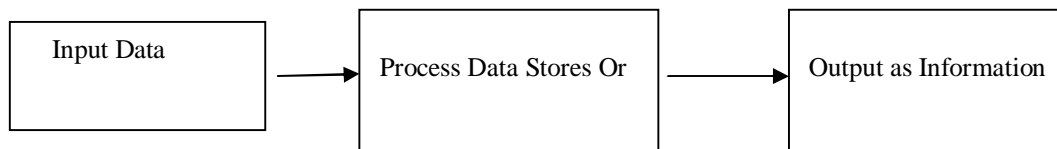
Obianu (1994) stated that; the computer is a device for storing large amount of information and for processing this information in specific ways in a very short period of time. It is a machine specifically designed for the manipulation of coded information, an automatic electronic machine for performing simple and complex operations far beyond the capabilities of man.

Ezeliora (2000) also defined the computer as an electronic automatic machine; which is capable of receiving, storing, recalling or retrieving information, put in it. It is the fastest processing machine ever invented by man.

Okwoche (2000) saw the computer as a high-speed electronic machine that accepts data, processes them, stores, or puts them out as information.

Osakwe (2002) similarly defined the computer as an electronic device or machine that accepts data, in form of input, processes and gives result in form of output, which can be stored for future use.

From the above definitions, it is abundantly clear that the computer is a machine or device that accepts data, processes, them either stores them or puts them out as information as stated below.



b) What is Information Technology?

Information technology is the term commonly used to address the replacement of tasks hitherto done in offices, industrial set ups, and business premises by smart machines. Some of those smart machines (information technology tools) include fax machines, E-mail, G.S.M, programmable telephones, automatic banking system, computer terminal, personal computers, internet e.t.c. (Naishiitt, 1982). The development of information technology has gained world-wide application especially the computer, because of its unique characteristics of speed, efficiency and accuracy.

The Term Computer Literacy

Computer literacy

Computer literacy is the acquisition of computer related knowledge for the purpose of use in: solving the daily problems of our environment. Naishitt (1982) stated that computer education might be conceptualized as having three components, knowledge about computers, knowledge of computer application, and knowledge about social issues pertaining to computers. Knowledge about computers consists of basic instruction in the operation of a computer, and how it works such as how to turn the computer on and off. Knowledge of computer applications refers to software and hardware designed¹ to perform some jobs, such as word processing, database, etc. While knowledge about issues is an understanding of how the computer could be used for promotion of ethical values as individual privacy, impact of technology on future life and information age awareness.

From the above view held by Naishilt on the term computer education/literacy, it is obvious that the Nigerian education systems is lagging behind in acquiring computer and information technology education.

Development/Development Indices

Castle (1972) defines development as "The process of building up economic and social conditions that contribute to the fullness of life in human ..." It calls for the education of the ignorant and reduction of the uneducated.

Chambers, English Dictionary defines development as ...growth or expansion. "Development can therefore be said to be growth, expansion, progress or advancement. In this connection, National development "is the existence of an economically active and productive educated citizenry, ready access to employment, availability of basic comforts of life, like water and electricity, efficient and effective health services, good transport system by land, sea and air". "Efficient communication system, cultural awareness and respect for tradition and laws of the land, and above all a flourishing food production system" (Adesina, 1988).

The national development of any nation, rests squarely in the ability of her citizens to have access to sound and qualitative education, healthy citizens that are well fed, good social services, such as efficient and effective communication network, electricity, adequate security, and respect for the laws of the land etc.

Specific Impact of Computer Literacy in National Development

The impact of computer literacy in national development cannot be over-emphasized. The distinct areas where computer literacy has made serious impact include scientific research, medicine, space technology, business application, banking, industrial applications, communication and education.

(a) Scientific Research

In science, computer literacy has empowered man to carry out calculations, which were previous!) beyond contemplation because of the time span and difficulties in carrying them out. The speed, reliability, and precision of computers in carrying out complex scientific and engineering calculations have empowered man to transform his theoretical investigations in nuclear physics chemistry and astronomy to better his living standards. The place of the computer in national development has made it a standard feature of life in university laboratories worldwide (Odili, 1994). In agreeing with Odili above, the computer serves as useful tool for the scientist in areas such as space exploration, weather forecasting, laboratory investigations, under-water experiments, and radio carbon dating. This too has greatly enhanced our national development.

(b) Medicine

Doctors who before now have strained themselves in routine work connected with clinical diagnoses now carry out investigations using computer to explain laboratory tests. Computer literacy has empowered doctors to detect laboratory tests of blood and urine that show some abnormalities. By storing the information from the tests in the computer memory, the changing biological situation of each patient can be recorded for effective and efficient medical attention. Computer literacy has empowered researchers in the medical field to produce contour maps of the human body. These graphs and maps are used to study spinal deformities in children, and for plastic surgeries (Odili, 1994). The above assertion can be confirmed by the degree at which we see medical doctors use the computers in their offices today, local and standard federal medical centres throughout the country use computers on a daily basis to adequately carry out their programmes.

(c) Space Technology/Information Technology

The trend in space technology which culminated in the first moon landing, was only possible because of the calculating powers and speed of the computer. Computer literacy empowered man from the design stage of the project and in all phases of development right through to flight control. Computer linked, space satellites provide information which is not merely of interest in scientific research but also of immediate practical value to the society which are exemplified in the world wide use of satellites to provide coverage of important events by TV, Radio, E-mail, Fax, Global System Communication (GSM) etc (Ajugu, 2000).

Information Technology is another area where computer literacy has greatly enhanced our national development.

The computer is used nowadays in many areas of communication. Messages can be sent in form of letters, voice messages and pictures messages. Electronic mail, voice mail, electronic banking and electronic funds transfer, teleconference, Internet and computer networking among others, all these have greatly enhanced our national development.

(d) Banking

Banking is now almost totally dependent on the computer. The huge labour force that would have been needed in today's massive volume of book keeping (if it was handled manually) has been taken care of by the computer. Electronic money transfer, a common practice by most banks today, is a system where bank customers in one part of the country can ask a computer located thousands of kilometers away for a report on their account and have the statement displayed instantly on a computer screen at their local branches of the bank. Information on such things as current balances, deposits, overdrafts, interest charges and sharing 'are all controlled by the computer system. Customer's statement of accounts are printed out by the system. In the banking system the computer provides each branch and its customers with prompt access to information, which is not possible in a manual system (Odili, 1994). This has greatly created a revolution in banking industries, as could be seen in First Bank Nig Plc, and some other banks where there is hardly any paper work today. This has greatly improved our national development.

(e) Industrial Application

In the industrial sector computer literacy has empowered man to plan, control and coordinate his production. Chemical plants that are toxic in nature, are now controlled by computers thereby reducing their hazards to mankind.

Oil refining, the separation of crude oil into its many components, is a continuous process depending on the maintenance of certain conditions throughout the processes. Computer is used here as a suitable control instrument. Electricity industry is another area where computer ensures that the generators are not run wasteful!', when the demand for power drops, the computer aids the generator to reduce its output (Odili, 1994).

In printing and paper industries, computers are particularly useful in the production of newspapers and magazines, many copies are produced at a very fast speed. Computers can be used to automate the **manufacturing** process and regulate temperature, pressure and weights; such as can be seen in Taraku Mill, Benue Bottling Company, Benue Cement and Benue Breweries. The computer has greatly increased the speed and accuracy of performance of these industries.

Conclusion / Recommendations

This paper has highlighted the place of computer literacy in development of nations. If we in Nigeria, are to meet our socio-economic developmental needs and to be part of the global village, our economic, and national development agenda will require the introduction of computer literacy at all levels of our educational system.

Computers are becoming smarter and will be a dominant force in the future of our society. As "smart machines" become more prevalent, the number of careers in computers will grow dramatically and provide many employment opportunities (Turabian, 1987).

Thus, the earlier computer literacy is made compulsory for Nigerian students, the better it is for the nation.

Recommendations

It is therefore suggested that:

- 1) Computer literacy be made compulsory at all levels of Nigeria educational system.
- 2) The passing of computers as a subject be made a compulsory requirement for admission into Nigerian Universities as is the case with Mathematics and English.
- 3) Electricity be provided for schools in rural areas to enhance the teaching and learning of computer science.
- 4) A bold step be taken by both the Federal and State Government for the recruitment of computer teachers.
- 5) A special scholarship scheme should be designed to encourage Nigerians to read computers as a subject.
- 6) Special package of financial benefit/rewards should be given to computer teachers to encourage them remain in the field instead of leaving to join the banks, oil refineries and other sectors of the economy.
- 7) State and Federal Governments should set a time table of seven years to provide computer and electricity to every secondary school in Nigeria.

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