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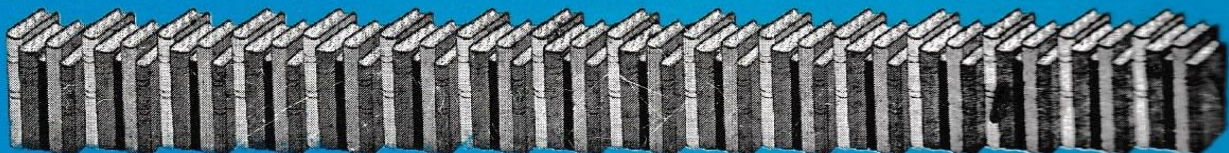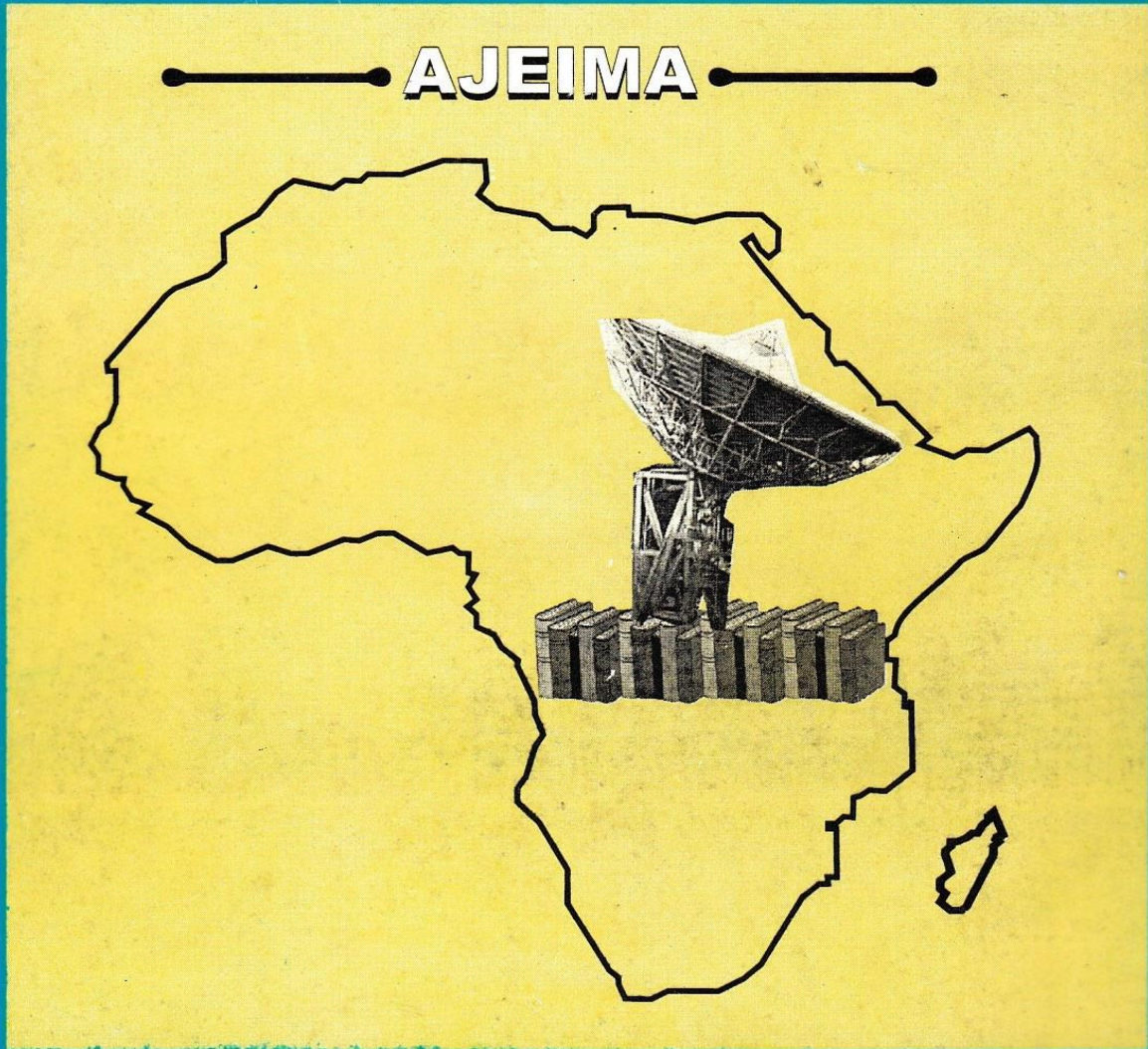
COMPUTER EDUCATION IN NIGERIAN SCHOOLS; A PANACEA FOR NIGERIA'S QUEST FOR A LITERATE INFORMATION SOCIETY

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ABSTRACT

The evolution of information technologies and Nigeria's quest for an ideal literate information society calls for full integration and implementation of Computer education policy and programmes in Nigerian educational system. The aim is to enable Nigerians to acquire basic computer skills that will ensure their full participation in the different sectors of the information society. Nigerian schools have an obligation to fulfill to the society by looking at how computer education can contribute to the fulfillment of educational goals that will lead to a sustained literate information society. It is important for Nigerian schools of all types at this time to direct their efforts at improving the quality of education by providing quality educational service through making available qualified, competent and committed teachers, facilities and equipment as well as make provision for periodic review of computer education policy and curriculum contents. This will enhance the educational process to produce qualified graduates at all levels of the school system who will contribute meaningfully to the overall development of a literate information environment. On the strength of this therefore, this paper takes a critical evaluation of the need for computer education in the information society, overview of computer education in Nigerian schools, implication and prospects of computer literacy for general education and society and deficiencies hampering full implementation of current curriculum in computer education in Nigerian schools. Recommendations are also advanced for improvement.

NEED FOR COMPUTER EDUCATION IN THE INFORMATION SOCIETY

The need for computer education in contemporary society cannot be over-emphasized. This is basically because the end-product of computer education is computer literacy. We are now in the 'Information Age' floating on top of information. In the information society of today, interaction with one another in whatever field of knowledge is not what matters, what maters most understands the content of the message being sent and received. The state of Nigeria economy in recent times is revealing that any graduate of a school especially tertiary institutions and universities without a working knowledge of computer as applied to his field, may find it difficult to get a job. The computer is one of the most versatile tool man has ever invented. Its use is not limited to industry, academic and research activities alone, the doctor, lawyer, the office, the laboratory etc need it as well. The ability to use a computer in whatever way is today a means of livelihood for many Nigerians and has become a job requirement in the world labour market. The need for every information users to cope with the current wave of technological changes taking place in the society is very much on sight. It will be recalled that in the early 1970s, computers were limited to government, business and commercial processing centres. Today, their unlimited nature has enhanced many individuals whose work is information oriented, and is earning their living with computer services. Many offices in organizations or establishment be it government, public or private are automating and computing very fast in order to meet up with the challenges of the information age. With this trend of events, it is interesting to note that Nigeria is now aware of the need to compete favorably with other Third World nations for mass literacy campaign in computer education. In line with this Akpan (1998) agreed that there was a strong need for computer instruction in Nigerian schools in recent past and this was acknowledged by government and this subsequently led to the inauguration of a National committee on computer education in Nigeria.

OVERVIEW OF COMPUTER EDUCATION IN NIGERIAN SCHOOLS

The major objective of introducing computer education in Nigerian schools especially at the secondary school level was to enable students acquire knowledge about computers which would engage them directly in the world of work or assist them to pursue courses in computer studies at higher levels. The decision of government in 1988 to start its pilot programme in Federal Government Colleges was in keeping fate with what had proved successful for other countries, and to operate in line with the recommendations of the Committee on National Policy for Computer Education in Nigeria which was mandated amongst others to:

(i)   Advice government on the types and levels of education that will contain offerings of computer education courses;

(ii) Determine the curricula-contents and procedures best suited to the needs of this country for the various levels of education, including general computer literacy at the tertiary levels;

(iii) Consider and advise on the ways and means of ensuring a smooth transition of computer courses between and among the various types and levels of education.

Some efforts have been made by the Federal Government to equip her secondary schools to teach computer courses. The truth is that, how well the project has fared is not known. But one will always observe that the elite Nursery, Primary, Secondary and other private schools, which are few in number and in most cases unapproved and unaccredited have flooded our major cities and towns, and are currently teaching computer courses to those who need the skill. Evidently, there are presently many computer institutions or centers in Nigeria. Actually, Nigerians consciousness as to the awareness of the potentials of these computer schools and their relevance in our National development and well-being is just emerging. As a means of advancing information in the country, Alabi (1996) in support of this assertion maintained that, of recent the applications of information technology activities especially those relating to education and training rose significantly amongst youths and other individuals due to a number of factors which include the following:

(i)   Since 1978 to the present academic year, the existing universities, Polytechnics, colleges of Education/Technology, (Government and privately owned) admitted a number of qualified applicants into various Computer/Computer related programmes.

(ii)   The operations of Commercial, Merchants, Mortgaged and Development banks as well as number of other finance houses, industries, functional establishment/ Organizations etc depends much on the application of information technology for their day-to-day operations. Because of the lucrative nature of payment incentives of these establishments, prospective applicants strive to acquire certificates (formal and informal) in computer training with the hope of being attracted by this establishment.

Before now, computer courses were envisaged to be strictly meant for the tertiary level of education, whereby, only the Universities, Polytechnics and Colleges of Education were expected to teach courses in computer studies and produce graduates in that discipline. The resultant effects as further viewed by Alabi (1996) were:

(i)   Very few Nigerians had access to tertiary education and only a negligible percentage of this number was admitted into Departments of Computer studies. Thereby, only very few Nigerians were trained in computer technology.

(ii)   Social demand for computer literate Nigerians out-weighted the level of production of this cadre of manpower.

In attempt to solve the above problems, the Federal Government formulated a computer policy which was not only to address the need for more awareness but also to ensure that sound basis for computer education and utilization is laid. With the experience of developed nations that had introduced computer literacy programme, it was observed that the most appropriate place to start computer literacy awareness campaign is at the school level and the most appropriate level within the education system is the secondary school level. However, government intention from every indication appears to centre on the need to ensure that everyone appreciates:

(i)   The impact of information and computer technology in today's society,

(ii)   The importance of the effective use of information to the individual and society,

(iii)   The techniques by which information is processed, managed, and communicated and

(iv)   The role of computers in information management.

In pursuance to achieve the aim of Polytechnic's Colleges of Education/Technology and University's revitalized objectives of offering training programmes and practical services of direct relevance to the technological needs of the Nigerian society, Computer education was introduced as one of their numerous academic programmes. Towe (2000) observed that good education is the essential foundation of a strong democracy. So if one of our national objectives is to be self-reliance technologically then, we must be serious. It has become necessary that all students irrespective of their level, to take courses that relate directly or indirectly to computer studies along with others before graduation. This is because the impact of technology and information revolution which have affected all facets of our national life, and the corresponding emphasis from industry to information service in the society call for adequate knowledge and display of computer literacy competence. Computer education is now a discipline that is important and one mostly affecting development processes. Because of this, Inyang-Abia (2003) advocated that computer literacy should be made compulsory in teacher education programmes at all levels. And, it should be a basic requirement for teacher recruitment since it is so essential to the society. And the Nigerian education planners themselves must be computer literate. Without computer literacy, it may be difficult for Nigeria to join the present match to globalization. Hence the need for full involvement of education supervising bodies likes National Universities Commission (NUC), National Board for Technical Education (NBTE) and National Commission for Colleges of Education (NCCE). These bodies play significant supervisory roles which aimed at establishing and entrenching a computer culture that permeates all activities in the schools, producing graduates who are considered computer literate irrespective of their courses of studies or major disciplines, etc.

It is worthwhile to note that the spread of and use of computers in our schools is yet to attain an appreciable level compared with what is obtained in many countries of the world. Based on this, Wali (2000) opined that there is an urgent need to improve computer facilities in our tertiary institutions, and universities so that students and faculties would have greater and easier access to sufficient number of computers. It is even disheartening to not that, with over 182 academic institutions (i.e. Polytechnics. Colleges of Education/ Technology and Universities only 38 computer Education and computer related courses are runned for the award of Degrees and certificates which of course is quite insufficient to produce the required number of computer literate graduates expected to contend with Nigeria's quest for technological break-through in the information society.

IMPLICATION AND PROSPECTS OF COMPUTER LITERACY FOR GENERAL EDUCATION AND SOCIETY

The major domestic goals for Nigerians as defined in the constitution are equity, industry and education. Under education Udoh (1996) viewed that, the responsibility of the school irrespective of the level is to impart the knowledge and skills required for the achievement and preservation of our national goals and aspirations. Assuming that these envisaged goals are fully in focus then it should be expected that there lies ahead much for mass computer literacy education and brighter future among Nigerians in this 21st century. This forecast is based primarily on the broad-base expansion and revision of the curricula of Nigerian schools to accommodate computer education in one hand and implementation of these curriculums in the other hand. Education now is one area, which will continuously be affected by information technology developments. This fact has since been recognized as it affects all levels of the education system. Fosket (1996) reports that, recent years have seen significant developments in education, particularly at the tertiary level. There is greater number of students, as tertiary education is increasingly seen as the path to a good career, and many of these are now 'mature age' students, who do not undertake tertiary studies immediately upon leaving school. Many are studying externally, making use of digital materials on their home computers. Tertiary education is ceasing to be essentially associated with physical attendance at a specific location and personal interaction with fellow-students and staff; instead, a diploma or a degree will be the recognition that students have completed the requisite number of units of study at a variety of approved institutions to the satisfaction of staff who may never have actually seen them or each other.

Computer education studies and computer related courses in the academic programmes of Nigeria schools are impacting greatly in the educational needs of the society. This realization has prompted Abubakar (2000) to advocate that authorities of Nigerian institutions should, in effect, in one way or another keep in touch with their graduates as they perform, and advance in industry. This will provide or serve as the only measure, to quantify the relevance and effectiveness of their programmes. Now, functional computer education programmes in Nigerian schools are enhancing functional literacy in computer and information technology. Presently, almost all Nigerian schools especially the higher institutions and universities are linked to the internet and students of these institutions or universities are well exposed to internet exploration. Unlike what it was in 1963 according to Abimbode (1998), where computers were first used in processing the National Census figures and handled by non-Nigerians mostly because not many Nigerians have gained expertise in the operation of computers. Today, the story is different because the information age demands everybody to be computer literate, so as to be able to cope with the challenges of the information society. Because of Nigeria's desire to project into the feature and create a science and Technology base environment, schools curriculum of primary, secondary, and courses in Natural and Applied Sciences, Arts and Humanities, social science, Education, Technology etc of tertiary and university education are continuously designed and revised to have direct bearing with computer appreciation. Okon (1996) observed that there is no course of study offered at whatever

level of education which the computer cannot be made use of. Hence, Nigerian students need computer education to cope with the challenges of the feature. Even if they don't major mainly in computer science, they need to be exposed to the rudimentary aspects of computer education since the computer can be applied in any field they study.

This is the computer age; call it 'Information Age' where every average Nigerian is expected to make full use of the potentials offered by the computer. Having undergone partial or full time training in computer studies, one is expected to be able to handle at least the simple aspects of computer operations if not the complex in sending and receiving messages, calculations, storing and processing storing and recalling information etc. Therefore computer studies in Nigerian schools should be intensified and re-emphasized in Nigerian schools curricula. Computer education should go hand in hand with general education because with computer training students in Nigerian schools after graduation will be well equipped to meet-up with their professional demands. They will be modern and will enjoy whatever profession they choose to belong. Computer skills can be applied in Banking and allied professions, law, libraries, Armed forces, Transport and Communication, Medicine, Automobile and steel companies, weather forecast, Space and Oil exploration, Education, Sports and games, Hospital, Business, Agriculture, Administration etc.

DEFICIENCIES HAMPERING FULL IMPLEMENTATION OF CURRENT CURRICULUM IN COMPUTER EDUCATION IN NIGERIAN SCHOOLS

The Federal and State government policies on National Curriculum on computer education was written to meet the taste demands and needs of Nigerian students based on prevailing Nigeria environment, situation, experience and values. It is not an understatement to say that Nigeria is far behind many countries, even African countries in using computers in education. The Nigerian environment currently is suggesting that computer education is still somehow new because much is expected to be given to the Nigeria population. At present, the little we have in terms of information infrastructure and other peripherals is still much to desire. Even in most Nigerian academic institutions the offering of computer as a course in their academic programmes, and subsequent application of computer is far below what is obtained in other nations of the world. Wali (2000) maintained that the reasons for this state of affairs are not hard to find; majorly is that, Nigeria did not enter the information technology game when it should have.

At the time (late 70s to mid 80s) when many governments were formulating information technology policies, especially in education, Nigerian authorities remained unconcerned and indifferent about the potentials of the worldwide information technology revolution. Even now, the country has a long way to go, if it is to fully realize the significance of computers and computer related technologies to the benefit of education, economy and communication. Towe (2000) maintained that when the current curriculum for schools and tertiary institutions were designed some 20 years ago, technology was not as advanced as it is today. There were no digital and mobile telephones no cable television, and computers were rare to come by, the situation has not changed to an appreciable standard. The much of these we think we have now cannot go round to every Nigerian because of

the high poverty profile of Nigerians. Worst of it is the epileptic nature of power Holdings of Nigeria which does not even help matters. Although the new technologies are available everywhere in all corners of the country but without the reach of the average man's ability to possess, the changes in this technology that also requires changes in the curriculum does not appear to be given serious attention by educational planners in Nigeria. One among other deficiencies in Nigerian school curriculum before now was the absence of computer literacy courses. In view of the wide application of computer literacy to science and technology, Education, the Arts and Social sciences, it is important that there should be more of computer and computer related course at all levels of Nigeria education programmes more than what is currently obtained in the existing school curriculum. Although there appears to be attempts by universities and other tertiary institution authorities and academic planners in Nigeria to make computer literacy courses available in all programmes producing graduates at all levels, these attempts have not been sustained. Considering the number of institutions and programmes runned. Another deficiency borders much on the levity with which general studies and education courses are treated or handled in most of the institutions in Nigeria. In most cases, only the use of English and communication in English have had some emphasis and impact on the general education courses a student undertakes. The general education courses are expected to expose the students to the social, economic and political environment of the society which of course most school authorities does not lay much emphasis on and this is detrimental to the total intellectual development of the student. The time has come to teach the students computer education irrespective of their discipline.

One will not doubt, despite the fact that there are presently many computer institutes in Nigerian environment, the awareness of the potentials of these institutes and their relevance to our national development and well-being is still seen as just emerging. This emerging awareness is greeted with many problems especially the one that Nigerian graduates will continue to graduate from the institutions with their heads full of theories, but absolutely lacking in practical experience. Facilities are actually inadequate in supply and this is affecting the teaching and learning process in computer education. It is from this premise that Usoro (1996) maintained that in order to achieve the objective of computer education, adequate computer facilities should be provided in classrooms, not a situation where one or two computers serve a whole university etc. That, experience has shown that some institutions that offer courses in computer literacy have very few facilities with a large student's population. This therefore renders the supposed training ineffective. Abimbade (1996) has also reported in a study on information Technology in Teacher education programme, that 86.7% of schools studied have no computers, and 83.4% lack qualified computer teachers. This shows a negative picture of what is happening across the nation's institutions of learning. This posses a serious challenge to the integration of computer education into the Nation's school system. Even at tertiary and university levels where it is expected that both lecturers and students should be familiar with computer application, only a very small percentage of lectures and students are computer literate. In education of this type, there is need for equipment and facilities to be provided before such training if the objective is to be achieved.

CONCLUSION AND RECOMMENDATIONS:

The introduction of computer education in Nigerian schools is a welcome development when one considers the relative importance of computer applications in all spheres of Nigeria economy. Computer applications in all sectors of the economy indeed are a great boast to the development of science and technology in Nigeria. The common citations of the benefits for using computers in education are the fact that computers can improve learning and can also improve the cost effectiveness of education. This realization has resulted in the widespread use of computers all over the world. The trend affects rapid socio-economic development. However, in view of the prevailing needs for a sustained information literate society, it is hereby recommended that:

- Universities, colleges, polytechnics, secondary, primary and nursery schools (government or private owned) should in line with computer education formulated policies explore ways in addition to the ones enshrined in the policy on how computer education can contribute to the fulfillment of their goals as academic institutions of learning.
- All schools that have not started computer studies should as a matter of urgency establish computer education department in their schools, as a matter of priority, each centre should be equipped with at least 20 PCs and qualified staff to handle the instructional processes.
- Where an outright computer education department cannot be established, computer courses should be taken as elective courses or as a minor field of specialization for non-computer majors.
- All schools should ensure that before the end of 2010, they have put in place resources that will ensure that graduates of their schools are computer literate and can use the computer in solving problems in their fields of specialization.

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