MANAGING EDUCATION FOR SUSTAINABLE DEVELOPMENT IN DEVELOPING COUNTRIES

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Preface

During the decade of 2000s, UNESCO emphasised the attainment of "Education for All" by year 2015. This is with a view to ensuring that every one, whether young or old that knocks at the door of education is not denied access. This will ensure that a large number of citizens of different nations are greatly educated. To this end, the issue of 'Education for All' will ensure that there is sustainability of the business of education. Sustainable development is designed to meet the needs of the present generation from diverse regions, continent, race, language, and religious beliefs without compromising the ability of the future generations to meet their requisite needs.

Notably, developing countries strive and struggle to sustain their development predicated on their gross domestic product (GDP) which in the recent times has been declining in some countries. In order to address the different views and contribute meaningfully to ongoing issue of sustainable development, this book has been conceived to harvest diverse views of experts from different fields.

The book is divided into six chapters. Chapter one on managing education for poverty alleviation examines the following components: Spotlight on the Nigerian poor children and women; Redirecting education for sustainable development and poverty eradication in Nigeria; Influence of poverty on academic performance of senior secondary school students; Managing technical and vocational education as a poverty alleviation initiative; Managing education for lifelong education for poverty alleviation.

Chapter two on universal basic education (UBE) and sustainable political, economical and social development dwells on UBE and sustainable social development; Universal basic education as a catalyst for sustainable development; UBE and sustainable national development. Other themes addressed in this chapter are: Ensuring adequate resources for sustainable development; Universal basic education and the unresolved fundamental issues; UBE as a vehicle for sustainable development; Implementation of the UBE: Problems and prospect on funding; and Universal basic education and sustainable political, economic and social development.

Chapter three is on Information Communication and Technology (ICT) in the management of education for sustainable development. Pertinent topics covered are: Information communication technology and contemporary Nigerian educational leaders; Strategies for integrating computers, information and technology for sustainable classroom management; Information and communication technology in educational management and development; The Challenges and prospects of ICT in secondary schools in Nigeria; and Assessing the benefits of ICT compliance for sustainable development.

In chapter four, subjects treated are: Emerging trends in the management of youth education for sustainable development; Investing in women education: Strategy for poverty alleviation in Nigeria; Gender and youth issues in the management of education for sustainable development; Functional women literacy and empowerment: Implications for sustainable development; Managing higher education for sustainable development: Students restiveness; Contending with gender impediments to attaining career heights: Implications for sustainable development.

In chapter five, the following topics form the focus of the discussion: Post-university matriculation examination (UME) screening test: Some impediments to its effectiveness; Attaining sustainable development through poverty alleviation; Higher education management and business environment strategies; Fair hearing rights for school children: What every school authority needs to know; Functional and entrepreneurial education and the secondary education sector; Provisions and management of recreational facilities in secondary schools.

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In chapter six of the book, the issues discussed are: Budgeting roles of community based organisations (CBOs) in the management of education; Roles of international agencies, non-governmental organizations(NGOs) and Community based organisations in the management of education for sustainable development.

I am of the opinion that this book will contribute greatly to the building of the capacity of students of educational management, educational administrators and policymakers that are committed to ensuring continuous sustainability in the development of education.

The effectiveness of the editorial team in producing this book depended, not only on the efforts of the Editor–in-Chief and those of his team members but on the professional assistance of Mr A.A. Egunjobi of NISER who critically and painstakingly went through the pages and made necessary corrections. We also acknowledge Mr Awe Makinde that did the typesetting and printing.

The views and opinions expressed in this book were those of the authors and do not necessarily represent those of NAEAP.

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The Role of Information and Communication Technology (ICT) In Enhancing Learning Delivery and Development of Education in Nigeria

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Abstract
There is a growing trend worldwide towards the adoption of e-Education as a framework for enhancing the delivery of quality education in the quest to achieve educational development. Therefore, this paper discusses the basic ingredients and meaning of Information and Communication Technology (ICT), ICT in Education, problems of e-Education in Nigeria, ICT in educational management, before conclusions and recommendations were made.

Introduction

The term Information and Communication Technology (ICT) indicated the advancement in the technological coverage of information, communication and broadcasting technology. Millions of information are being generated every second across the globe through research and enquires that must be distributed and disseminated to people all over the world. Information according to Salau (2005) can simply be defined as processed or useful data. Sometimes, it could be called meaningful data. It can also be defined as answer to problems, the result of human usable output from computer. Lucey (1991) said information is data that have been interpreted and understood by the recipient of the message.

Oke (1998) said, Information and Communication Technology (ICT) is about two major changes, the first change is availability of small cheap computers, which makes it possible for people to have one or two on his/her desk. The second change is that communication is now readily available that people now use the power of computer and the information held by computer whenever they need it. These, no doubt help to make better decisions, or offer services of higher quality at the lowest cost.

Information and Communication Technology can therefore be defined as the ability to create access, manipulate and transmit information of data, text, images and voice by the application of computing, electronic communications and related technology.

Oliver (1999) defined Information Technology as the science that investigates the properties and behaviour of information, the forces governing the flow of information and the means of processing information for the optimum accessibility and usability. The process includes the origination, collection, storage, retrieval, interpretation, dissemination and the use of information.

According to Jegede (2004), communication can take place in various ways including face-to-face: using the technology of manual or electronics projectors, correspondence: using the technology of post, courier, fax or e-mail, printed media: using the technology of print or books, maps, charts, postal, photographs, written or textual materials. Audio: using the technology of audiocassettes, radio broadcasts, telephone, teleconferencing, etc. Video: using the technology of TV broadcasting, video cassettes, video discs, video conferencing and computer: using integrated multimedia consisting of stand aloe computer based work-station, Internet, Intranet, Local Area Network (LAN) and Wide Area Network (WAN).

ICT in Education

The field of education has not been unaffected by the influence of Information and Communication Technology (ICT). Over the years, humans have found those various technologies useful in education, educational management, training and administration. These technologies have been used to narrow distances between teachers and learners. Undoubtedly, Carswell (1999) said, ICT has impacted a quiet revolution on the quality of teaching, learning and research in traditional and distance education institutions. In concrete terms, Davis and Tearle (1999) observed that ICT has enhanced teaching and learning through its dynamic, interactive and engaging content; and it has provided real opportunities for individualized instruction. Also ICT has the potential to accelerate, enrich and deepen skills; motivate and engage students in learning; helps to relate school experience to work practices; helps to create economic viability for tomorrow's workers; contributes to radical changes in school; strengthens teaching and provide opportunities for connection between the school and the world, again ICT can make the school more efficient and productive, thereby engendering a variety of tools to enhance and facilitate teachers' professional activities (Woperies & Kirscher, 1993).

According to Jegede (2004), with the traditional face-to-face instructional delivery mode, it will be difficult, if not impossible, for any nation to provide education to all her citizens. As it is the case with many developing nations, the demand for education in Nigeria has risen and inadequate vacancies at our institutions has denied many qualified Nigerians the opportunity of admission to read courses of their choice. This, many at times, leads to frustration on the part of the helpless candidates and their parents. Fafunwa (2002) opined that open and distance education has been of tremendous assistance to many advanced nations in solving this type of problem. Justifying the above, Fafunwa (2002) went further to say that, distance education with the use of information technology is suitable for work place, training of teachers and rising the economic development of the local communities, thereby helping to eradicate poverty and encouraging development.

ICT in Educational Management

Information and Communication Technology according to Salau (2005) an important and useful tool in educational planning, management and administration. Proper data management is very vital to the success of educational institutions. The head of the institutions, according to Salau (2005), will need immediate appraisal of the following sub-system.

Personal and Records: Information on the following activities would be needed by the head of an institution, employee on contract, part-time, wages and allowances, promotion, retirement, etc.

Admission: Information about the total number of students in various department and subjects are essential, registered and non-registered students are easily identified in a computerized system. Records of each student such as matriculation number, names and address are easily identified and well stored for further reference.

Bursary: Information about staff salary, students' fees, pension and gratuity comes from this important unit to the head of the school for the annual budget preparation.

Exams and Records: Computerized examination record allows easy access to students' record and subsequent decision making on the academic standing of each student.

Welfare: This allows for the wants and needs of staff and students to be easily accessed by the school authority and processed for immediate action.

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Robert, Mitchel and James (1984) viewed ICT as a tool for enhancing teaching and learning through Computer Manager Instruction (CMI) and Computer Aided Instruction (CAI).

CAI: This allows instruction to be delivered to the students directly by allowing the students to interact with the lessons programmed into the system, without the teacher intervening or making any fresh instruction. It is particularly useful for tutorial, drill and simulations.

CMI: This allows for individualized instruction and individual differences of students can be accommodated by the teacher. This means that students will be moving through the checkpoints in the educational process at different times via difference paths.

Mhehe (2001) said, the use of IT in management is inevitable because the cycle of planning, implementation and evaluation; that is, the essence of management requires repeated human inputs and cannot be automated. However, it is clearly helpful in providing educational managers with accurate and up-do-date information so that their actions would be based on facts and figures.

Problems of e-Education in Nigeria

e-Education is a type of education, which relies on information super highway called www in other words known as internet. The major questions at this juncture is can e-education or e-learning be used in Nigeria in view of several constraints ranging from poor basic social amenities, poor power supply and the fact that majority of Nigeria populist reside in rural areas. The fundamental peripherals for e-education are computer and telephone. Most of these are not available in most rural areas in the country even where they are available, majority are not functioning and the level of computer literacy in the country is still very low. Farell (2001) observed that many rural people do not have computing and literacy skills to access e-learning. Betar (1995) on the other hands discovered that in general, the level of technology penetration in Africa is very low when compared with other developed countries.

Jegede (2004) observed that out of the estimated 818 million people in Africa, majority cannot boast of radio, television, mobile phone, personal computer, satellite television or even make use of internet. Reasons such as poor power supply, poor communication system, poor road network and level of poverty in the countries have been advanced for all the aforementioned.

Many reasons such as high cost poor power supply, poor communication systems, poor road network couple with the poverty level in the country have been advanced for all the aforementioned. At this juncture, the major question is whether the nation should remain with the traditional face-to-face classroom system with its attendant consequences or move to the modern educational system using ICT? The simple answer is, since education is the only weapon for social and economic emancipation of any nation, then, advancement towards e-education is in the right direction but, the use of technology according to Jegede (2004) must be balanced with the development in other sectors of the nations' economy.

Despite the poor picture presented above, considerable progress have been made. The growth in ICT usage in education in Nigeria to data according to Osuji (2004) is encouraging. In 2000, only 0.2% of the population used internet and the penetration rate of the personal computer was only 1.2% in 2004, bout 0.9% of Nigerians have access to the internet and PC penetration rate has risen to over 6%. Because of the increasing popularity of ICT, courses enrolment has been on the rise as computer schools and training continue to grow. P. 8-9.

Ajayi (2001) reported that fixed telephone lines in Nigerian were about 800,000 with about 70% operational. Mobile lines had less than 30,000 subscribers, but the

introduction of GSM in August 2001 changed that to over 2.2 million mobile subscribers in the country. The Telecommunication industry is growing and Nigeria, according to Ajayi (2001) is considered one of the fastest growing telecommunication market in the world. Efforts made on ICT development in Nigeria at the Federal and State Ministry of Education levels cannot be over-emphasized. According to the Federal Ministry of Education (2004), the Federal ministry of Education has its allied have introduced or provided several ICT based programmes among which are: school net, the National Open University of Nigeria and the National Virtual Library Project. At the state level, all state ministries of education have on-going projects and programmes on computer education that will automatically be documented as part of national survey on the state of ICT in Nigeria schools.

Uys (1999) said, rapid adoption of e-learning in the advanced countries has been attributed to the increase demand for higher education and the contention that online learning technologies are the only way to efficiently address the huge increase in learning needs and numbers because of the distributed and flexible potentials.

Osuji (2004) defined e-education (electronic education) as the comprehensive framework for the delivery of education using Information and Communication Technology (ICT) as tool. Any form of teaching, learning, management, administration, counselling and other educational activities that engages the use of ICT for its delivery falls within the e-education framework.

The concept of e-education became imperative in Nigeria education in view of the urgent need to enhanced the attainment of EFA and MDGs goals. Jegede (2004) said, the rapid and significant development in the field of computers and telecommunications have meant the continual availability of ever-better versions of a range of technologies at increasingly affordable prices. And, the ever-expanding business of providing instruction independent of time, space, location, etc. forced the welding between technology and open and distance education consciously or otherwise.

Osuji (2004) said, the adoption of the e-education will assure the Nigerian education system the following benefits:

- Enhanced Access to Quality Education: e-Education has the potential for reaching out to many learners and offering education whose quality is not compromised.
- Improvement in the Education Delivery System: ICT tools aid both teachers and students in the teaching-learning process. self-learning capabilities of ICT education will enhance mastery of school subject by Nigerian students. Teachers in the Nigerian school system would equally be aided.
- Optimal Utilization of Existing ICT Resources: A scan of the school system n Nigeria will reveal pockets of efforts at the local, state and federal levels at implementing some form ICT-enabled education delivery.
- Ensuring a Global Competitive Education System: There is trend towards a global adoption of e-education as a delivery system. In the near future, an education system that does not proceed along the part will produce graduates that are not globally competitive.
- Reduction/Elimination of Social Vices: A number of vices tat plague the Nigerian educational system such as examination malpractice, cultism are caused by a host of factors including poor academic preparation of students. Since e-education has the potential of elevating students' performance, and increasing time, it will constitute to reducing the incidence of the vices and overtime, their elimination. Pp. 11-12.

Recommendations

With regard to the use of e-education, we must ensure that, the objective behind the use of e-education in Nigeria is achieved. Because the success of distance education according to

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Riedling (1999) is focusing on the needs of the learners, the requirements of the content to be taught and the constraints by the teachers before selecting a delivery system.

It is a well-known fact that for e-education to succeed, lots of things have to be put in place, among which are comprehensive feasibility study by all the stakeholders to determine the level of awareness and preparedness for the takeoff of e-education in Nigeria.

- Development of user-friendly infrastructural facilities for our own type of e-education in Nigeria.
- Provision of alternative power supply in view of the present poor power supply situation in the country.
- Making the use of ICT mandatory at all levels of our educational institutions through adequate financial provision for both human and material resources.
- Ensure the growth of ICT from primary to tertiary education level through the development of relevant ICT curricula for each level of our education.
- There must be mass computer literacy programmes and train the trainers workshops must be organized at federal, state and local government levels to produce IT professional to train the would-be trainees at the various levels of our education.
- Encourage ICT companies through appropriate incentives that will compel them to invest in education and reduce the cost of ICT materials through tax rebates.
- A special scholarship scheme or students' grant should be established specifically for ICT to deserving Nigerians.
- ICT software that would meet our own local needs should be developed.
- Encourage ICT teachers with appropriate incentives that will make them to be dedicated, motivated and derived maximum job satisfaction.

Conclusion

We are often amazed by the features of ICT in education without considering the reasons behind the choice to support teaching and learning with technology. Effectiveness of any type of technology depends on their selection and how they are used to attain the intended objectives.

Adoption of ICT in learning delivery will lead to the wedlock between technology and education. It will take distance out of education and it will enhance interactivity between the learner and the teacher. Finally, the division between open and distance education institutions and the traditional institutions would be eliminated.

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