

Quixotic Potentialities of Information Communication Technology in the Running of Polytechnic Distance Education Programs in Nigeria

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Abstract - As Information Communication Technology (ICT) has become more and more popular in our life, researchers have begun to focus attention on its potentialities in the running of Polytechnic Distance Education Programs for the development of super-structures. In 1978, The Enugu State Broadcasting Service and Institute of Management and Technology collaboratively established the first Higher National Diploma Certificate Radio Program in Nigeria. This paper discusses the uses of Information Communication Technology in the running of Polytechnic Distance Education Program in the 21st Century. Also, its features, rationale, implementations, and challenges, as well as recommendations, are discussed. The impact of ICT is presented on what is learned, when, where and how, and how teaching and learning take place. This is to foster a generation of technological tools and technology-based information age. It has not been as extensive in distance education as it is in other fields in Nigeria, hence this study.

Keywords-ICT; Distance Education; Technological tools; Information age.

I. INTRODUCTION

In 1978, the Enugu State Broadcasting Service and the Institute of Management and Technology agreed to run a Polytechnic Distance Education Program to carry out the social service functions of the Institute, apart from teaching and research functions. The program was introduced to respond to the growing needs of the society, which are not easily met by the traditional form of education in Nigeria [1]. The fundamental rationale for the program includes:

- To provide an opportunity for higher education for adults who, for different reasons, did not have the opportunity of early education.
- To complement the efforts of institutions of higher learning.
- To provide manpower needs for the nation

- To increase the number of well-educated citizens
- To provide general knowledge for the citizens

In Nigeria, according to official statistics, out of 43 million pupils who ought to be in primary schools, only 20 million are attending school. The implication is that over 50% of children of primary school age are out of schools. At secondary school level, 33.9 million students ought to be in school, but only 6.4 million are enrolled, translating to 27.9 million children out of secondary education. Even where access to education has improved, the school system is struggling to meet improved demands, but still the quality of education continues to suffer. In some states in Nigeria, hidden costs and lack of infrastructure still keep a large number of children out of school. There has also been a chronic under-investment in Early-Childhood Education and Adult Literacy programs. The outcome has been the prevalence of mediocrity and lawlessness in the society. These have led to more and more children joining the multitude of street urchins, suicide bombers, armed robbers, child laborers, Boko Haram and prostitutes, among others [2][3].

In today's competitive environment, productivity levels have a direct impact on the success of any nation. When a nation decides that improving productivity is its priority, there are three areas to focus on: technological productivity, worker productivity and managerial productivity. ICT is the power that propels this shared world. For any nation's economy to engage in profitable activity, experts agree that the workforce must be ICT compliant [4]. Today's world is driven by knowledge, which translated into efficiency and effectiveness in production. However, the case in Nigeria is different. This calls for a serious concern so as to save Nigeria's Polytechnic Distance Education Program from crisis.

ICT offers valuable opportunity for innovative delivery of effective learner-centered services with the advent of personal computer, CD, DVD, Internet, mobile phone, and other digital devices. ICT offers blended learning tools and instruments necessary to transform

available technological and a variety of other forms of instruction at a distance, to deliver knowledge and skills to learners. Education is a socially legitimate knowledge that certainly helps individuals to obtain skills, better jobs, and higher salaries. The possibility of achieving success in this way in Nigeria is by making education and learning a need and a task for all. This requires bringing education and learning close to the people, developing and synchronizing local community's learning potentials and efforts within a comprehensive development strategy, with financial support [5].

The 21st Century is characterized by business development at Internet speed, short product cycle, short knowledge life span, changing literacy requirements, more career switching and continuous learning. In parallel to the flux of globalization, Nigeria has an urgent need for key strategies in re-building its competitive human capital to meet the new age challenges [6]. ESBS/IMT Polyair has taken some measures to improve practices online to ensure compliance and advancement in ICT development. Effective integration of ICT and pedagogical use of technology to bring Distance Learning transformation has been eagerly sought in the past four years. The strategic necessity of ICT in Distance Education Program (DEP) of ESBS/IMT Polyair has been inspired with a new face, the flexible Just-in-Time (JIT). "Distinct Blended Learning Approach (DBLA) for the 21st Century" can be taken at one's convenience, with a connected community. For example, e-tools, helpdesk by phone or e-mail and discussion forums are in place for learners. Learners are allowed to choose a mode of learning in Distance Learning (DL) courses. The ultimate aim of ICT in DL is to provide learners with the flexibility of study anytime, anyplace in a JIT mode. Study resources that help with Academic Advice, Technical Support and Peer Support are available via virtual learning environment at anytime and anyplace [7].

II. IMPLEMENTATION AND RATIONALE

Distance Education is not inherently learner-friendly. Adults choose to study part-time through this learning environment because it is the most convenient or the only educational option available. Adults choose Distance Learning because it offers a manageable way of combining study with family, work, friends and everything else they have to do. In all other respects, this is a demanding way to study, especially for a Polytechnic Higher National Diploma, which takes several years to complete [8]. Information Communication Technology has made Distance Education Programs attractive, cost-

effective and easier by the use of blended learning implementations, such as Internet, intranet, CDROMS, Video and Audio cassettes, films, radio and television as well as telephone services. Tele-working, the internet and intranet CDROM, PC and electronic media are some distinguishing aspects of ICT. They are becoming increasingly used for DEP to respond to the growing educational needs which are not easily met by the traditional forms of education in Nigeria [9][10]. Some of the Distance Educational needs include:

- i. To have courses for learners in scattered communities and caring for the socially and geographical isolated.
- ii. Providing educational opportunities for adults who had no opportunity of early education.
- iii. To bring into DE during Face-to-Face (FTF) expert knowledge, rare experiences and stimulating personalities
- iv. To have cost effective program for a large number of learners.
- v. To join hands with the Global Campaign on Education for ALL (EFA)
- vi. To initiate National Campaigns which deal with health and political issues [11].

III. QUIXOTIC POTENTIALS OF ICT IN POLYTECHNIC DEP

Quixotic potentials of ICT in Polytechnic DEP include the following:

A. Learning Resources

The printed materials tend to set fixed boundaries to a course and can date quickly. ICT supports a model of resource-based learning and offering access to a vast store house of information, data and contact [12].

B. Greater Individualization

Distance Education has been likened to an "industrial" model of teaching, but from the learners perspective, the experience can feel like being an anonymous number in the system taking a standard course. ICT facilitates self-directed study and opportunities for individual research and projects. It also helps to break down the bureaucratic relationship between the individual and the institution.

C. Greater Integration

ICT exposes the differences, but enforces a better integrated approach which enables the learner to move seamlessly from one area of activity to another [13].

D. Learning Community

ESBS/IMT Polyair learners welcome opportunities for contact and interactions with other learners and their facilitators and there is a program of FTF tutorial support. However, in a typical course, tutorials are neither frequent nor local. The use of e-mail and computer mediated conferencing has the potential to enable the learner to become an active member of a learning community with easy access to fellow students in their group, their tutor, students on the course nationally and the course team. The potentials of ICT in the new learning technologies will be to strengthen the sense of a learning community which is more accessible, personal, interactive and integrated, and, as a result, reducing the distance in distance learning.

E. ICT Potentials

ICT has the greatest potential for Distance Education which spawns human resources, social and economic development. It is said to be the single most pursued goal of nations. Information Communication Technology accelerates the development of students as learners through the provision of more materials for reading and more opportunities for simulation, problem-posing and solving [14].

It is envisaged that the introduction of ICT in ESBS/IMT Polyair program, software in learning and instruction will promote rapid dissemination of knowledge even to the excluded and also reduce the constraints associated with time and space. Moreover, the constraints have continued to swell the rank of illiterate Nigerians. The illiteracy rate in Nigeria is put at 57%. It means that, with an estimated population of 164,000,000, not less than 95 million Nigerians are illiterate [15].

IV. LECTURERS AND STUDENTS PERCEPTION OF ICT APPLICATION IN ESBS/IMT POLYTECHNIC DISTANCE EDUCATION IN NIGERIA

A total of one hundred and thirty lecturers teach in ESBS/IMT Polytechnic Distance Education Program. To

find out the extent of application of information Communication Technology devices, seventeen questionnaire items were formulated. Statistically, Likert type 4 points scale was used to elicit responses from the lecturers, as shown in Table I:

- Very adequate (VA) = 4 points
- Adequate (A) = 3 points
- Inadequate (I) = 2 points
- Very inadequate (VI) = 1 point

TABLE I. RESPONSES OF THE 130 LECTURERS ON APPLICATION OF ICT DEVICES IN TEACHING AND LEARNING IN ESBS/IMT POLYTECHNIC DISTANCE EDUCATION PROGRAMMES

S/NO	APPLICATION OF ICT DEVICES	V A	A	I	VI	MEAN	RANK ORDER
1.	Mobile Phone Services	3 6 0	120	-	-	3.69	2 nd
2.	Internet Facilities	-	150	20	70	1.85	9 th
3.	Broadcast Radio Service	-	120	180	-	2.31	4 th
4.	Broadcast Television Services	-	120	180	30	2.08	6 th
5.	Computer Conferencing Service	-	-	20	120	1.08	12 th
6.	Teleconferencing Services	-	-	20	125	1.12	11 th
7.	Text Books	5 2 0	-	-	-	4.00	1 st
8.	Video Conferencing	-	180	140	-	2.46	3 rd
9.	Video Cassette Services	-	90	104	48	1.86	8 th
10.	Slow-Scan Television Services	-	-	-	130	1.00	13 th
11.	Laser Videotext Services	-	-	-	130	1.00	13 th
12.	Teletyping Services	-	-	-	130	1.00	13 th
13.	Satellite Conferencing Services	-	-	-	130	1.00	13 th
14.	Fascimile Services	-	-	40	110	1.15	10 th
15.	Video text Services	-	-	-	130	1.00	13 th
16.	E-Library Services	-	90	120	40	1.95	7 th
17.	Knowledge of Computer Usage	-	144	144	10	2.29	5 th

Source: Survey, Report 2013

The data in Table I. above indicates that the mean score ranges from 1.00 to 4.00. Whereas item 7 has a mean score of 4.00, item 1 has a mean score of 3.69. All other items scored below the positive mean score of 2.5.

Table I shows that 2 out of 17 ICT devices ranked positive. This suggests that the application of information communication technology devices in the teaching and learning by lecturers is not yet satisfactory. Hence, the rationale for this study.

TABLE II. RESPONSES OF 200 HND III STUDENTS ON THE USE OF ICT DEVICES IN TEACHING AND LEARNING IN ESBS/IMT POLYTECHNIC EDUCATION PROGRAMME

S/NO	APPLICATION OF ICT DEVICES	SA	A	D	SD	X	RO
1.	Text Books	800	-	-	-	4.00	1 st
2.	E-Library Services	-	-	164	148	1.26	5 th
3.	Broadcast Radio Service	-	600	-	-	3.00	2 nd
4.	Broadcast Television Services	-	-	20	190	1.62	4 th
5.	Internet Services	-	-	400	-	2.00	3 rd
6.	Mobile Phone Services	-	-	400	-	2.00	3 rd
7.	Knowledge of Computer Usage	-	-	-	200	-	6 th
8.	Video Conferencing Services	-	-	-	200	-	6 th
9.	Video Cassette Services	-	-	-	200	-	6 th
10.	Teleconferencing Services	-	-	-	200	-	6 th

Source: Survey, Report 2013

The data in Table II. indicates that the mean score ranges from 1.00 to 4.00. Whereas item 1 has a mean score of 4.00, item 4 has a mean score of 3.00. All other items scored below the positive mean score of 2.5.

Table II shows that 2 out of 10 ICT devices ranked positive. This suggests that the usage of information communication technology devices in the teaching and learning by student is not yet satisfactory. This calls for further studies.

V. CHALLENGES OF ICT IN POLYTECHNIC DISTANCE EDUCATION PROGRAMMES IN NIGERIA

Here are some of the challenges of ICT in Polytechnic Distance Education Programs in Nigeria:

- A. Over-centralization of decision-making and lack of stakeholders' involvement in decision-making in Polytechnic Distance Education Programs. This encourages patronage of powerful special interests and high level of corruption therein.
- B. Corruption diverts scarce funds from development projects and social safety nets into private pockets. In Nigeria, corruption related to weak governance and patronage-based politics has fuelled unproductive public investment. The opportunities for livelihood of Nigerians have been reduced, exacerbating poverty and conflict.

With per capita income falling significantly to less than \$300 between 1980 and 2011 (which is below the sub-Saharan average of \$450), approximately 95 million of Nigeria's 164,000,000 people are living in absolute poverty and illiteracy.

- C. Most of the lecturers in the Distance Education Program of ESBS/IMT, especially part-timers, can hardly be described as intellectually inclined either by training or in practice.
- D. Misconception of what Polytechnic Distance Education Program is, has led to high cost of ICT, lack of professionals, lack of institutional readiness, dearth of logistics and poverty.
- E. Economic constraints include: Limitation of capitalist system, corruption, inflation, inequality, insatiable appetite for the acquisition of material wealth (individualistic concern about cars, houses, clothes, and funds among other trappings of life).
- F. Insecurity Problems
Job insecurity due to economic crises has led to mass unemployment. Also, this creates a feeling of helplessness among the nations.
- G. Bad leadership
There is political instability, difficulties in communication and imperfections in organizational structure. Lack of serious political future for the participating stakeholders and their non-continued co-operation in the scheme are problems, too.
- H. Lack of political will
Ignorance and misplacement of priorities are evident causes, too. Talents and experts are sacrificed for mediocrity. Worse still is the quota system of sharing political appointments in government programs.
- I. Dearth of Experts
Dependency on Consultants outside Nigeria as a result of dearth of experts needed for the operation of ICT driven equipment for DE Programs.
- J. Constraint of Power Failure
In Nigeria, power failure makes it difficult for learners to read after day-light and the high cost of purchasing mechanized and electronic devices is on the increase.
- K. Worse still is the commercialization of the few available educational media in Nigeria. Also, non-maintenance of the collaborative agreement terms between the Enugu State Broadcasting Service and Institute of Management Technology

on the effective running of Distance Education Program is a challenge.

L. Insufficient funds and lack of culture of preventive maintenance in ESBS/IMT Polytechnic Distance Education Program [15][16].

M. Lack of infrastructure

Most of the classrooms are dilapidated; lack seats, no light and above all, insufficient classrooms.

These challenges have posed terrible problems for ICT-driven Polytechnic Distance Education Programs, especially the ESBS/IMT Polytechnic Distance Education Program in Nigeria.

VI. RECOMMENDATIONS

For Information Communication Technology to thrive, no matter the potentialities in Polytechnic Distance Education Programs, there must be a realistic implementation strategy that has to work towards the factors below:

- Leadership by Example and Commitment
Caring for peoples' needs, provision of suitable materials, provision of the right personnel and right environment and prudent management of available ICT.
- Practice of sharp-Networking: The relevance of networking includes that new ideas, vision and perspectives are elaborated and sharpened. Establishing a professional Association of Academic and non-Technical Distance Educators would enhance the most efficient and flexible mode of sharing information, experiences and ideas among likeminded persons, groups and organizations spread geographically and working on diverse issues.
- Readiness to rid the country of illiteracy: The political will should provide for promotion of research in motivation, evaluation and advocacy in ESBS/IMT Polyair Distance Education Program (DEP). The Management Committee requires some animators, conveners, or coordinators to act as models of energizing or sustaining information, ideas and resources among members and facilitators to ensure efficient ICT-driven DEP.
- There should be genuine incentives from the Management Board, School Board, Departmental Board and political leaders. This will help cure indifferences, apathy and

ethnicism. It will discourage early withdrawals, and encourage visit to those who opt out and insist on proper record keeping. Inculcation of values of personal concern, personal-centered teaching, personal interest in each learner, tenderness, sympathy, etc., to strengthen social cohesion.

- Regular Publication of DE Journals and other Academic Periodicals. Exchange of ICT experts of member countries. Also, organizing regular conferences (nationally and internationally), seminars, workshops and short courses on ICT-driven DE helps in strengthening the openness and willingness to learn, as well as the responsibility of individuals.
- Research: For a program of ESBS/IMT Polyair to achieve the set goal in Education for all in Nigeria, the training must rest on sound foundation and to meet the needs of society and individual(s). It is essential that it should constantly benefit from the contributions of the ICT. This helps in strengthening the learners to choose, decide and behave rationally in the study.
- Management should build more classrooms for face to face contact. Also, ICT devices should be provided such as computers, CDs, DVDs, internet services, e-library among others. This is to encourage students to become ICT-compliant.
- To encourage lecturers to become ICT-compliant, laptops and constant training should be provided to them.

VII. CONCLUSION

In Nigeria, with regards to the Polytechnic Distance Education with particular reference to ESBS/IMT, it is clear that the use of ICT Devices in teaching and learning is still not encouraging. The management of the Polytechnic Distance Education program should provide ICT devices and training to both students and lecturers to improve the standard of learning and effective use of these devices. Also, classrooms should be built to enhance a conducive environment for learning. The fact remains that the learner must be assisted at every stage of his educational program progression by continually supplying the materials and the stimulus that the learners need.

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