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ANALYSIS OF POST-ADAPT LECTURERS' ICT TOOLS UTILIZATION: CONSEQUENCES FOR E-CURRICULUM DELIVERY IN NIGERIA

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ABSTRACT

The study is a tracer study of ex-participants in the Nigeria Communications Commission (NCC) -sponsored Information and Communications Technology (ICT) empowerment programme for tertiary institutions in Nigeria. The project being implemented by the Digital Bridge Institute (DBI), the training arm of NCC took off in 2006. The programme has trained more than five thousand professors, lecturers, and senior non-teaching staff of Universities, Colleges of Education, and Polytechnics in Nigeria since its inception. The purpose of the training is to empower staff of tertiary institutions in the use of computers and electronic modes of communication generally and particularly in curriculum delivery as well as become a pedestal for entrenching ICT literacy among Nigerian graduates who are the future workforce of the nation. The study thus aimed at finding out how much of ICT tools is being utilized by the lecturers trained in the Advanced Digital Appreciation Programme for Tertiary Institutions (ADAPT) in teaching in line with the opportunities offered by e-learning strategies Three hundred and twenty-two ADAPT-trained lecturers were randomly sampled an administered with two questionnaires electronically. Data that resulted when analyzed using frequency and percentages, showed poor ICT utilization in the sample even when they unanimously agreed with the high efficacy of the e-learning mode in meeting today's global classroom challenges. Suggestions that have implications for the training programme and development of ICT culture in curriculum delivery were made.

1.0 INTRODUCTION

More than any change agent in the history of human civilization, information, and communication technology have brought in great changes that have charted development. Since the début of computers in the middle of the 20th century, there have been dramatic changes in all aspects of human activities. Old barriers are being pulled down and bridges are being built to connect old divides. This has not only converted the world into a global village but also reduced it into a single true community where decisions in one sector hold great implications for the other sectors. It has debunked the feeling of sectionalism and unnecessary identity and created a true world.

In Nigeria, the ICT revolution has revealed how possible it is for the nation to take her destiny into her own hands in order to build a truly strong and self-reliant

nation, a nation full of bright and full opportunities and a democratic and self-reliant society of her dream With the awareness of the possibilities which ICT holds for development, the Federal executive council in March 2001 set up the National Information Technology Development Agency (NITDA) charged with the responsibility of motivating the nations' growth in Information Technology (IT) knowledge and use. The policy statement was to make Nigeria an IT-capable country in Africa and a key player in the information sector by the year 2005 using IT as the engine for sustainable development and global competitiveness. The mission statement was to use IT for education, wealth creation, Poverty Alleviation, job creation, and global competitiveness (Isoun, 2003). The primary role of education in the achievement of this vision and mission is seen in the identification of human capacity building through retraining programmes, life-long

education strategies, and train-the-trainer programmes as means of helping both workers and youths to acquire and use relevant ICT skills in the improvement of productivity levels in their jobs. The federal government of Nigeria, through its agency, the Nigeria Communications Commission (NCC), and its training arm, the Digital Bridge Institute (DBI) started a Train-the-Trainer project in 2006 which targeted professors, lecturers, and senior non-teaching(administrative) staff of tertiary institutions in Nigeria in the project called ADAPT (Advanced digital appreciation programme for tertiary institutions). The aim was to equip lecturers, university professors, and administrators with relevant skills for modern teaching using ICT and to equip them with ICT tools that will help them depart from the traditional teaching mode that has dominated teaching and learning for centuries. The expectation is that ex-ADAPT trainees will develop capabilities to utilize facilities provided by ICT to expand teaching and learning modes as well as innovate strategies that will help improve the quality of teaching and learning in Nigerian tertiary institutions. This study thus focuses on finding out the extent to which the Post-ADAPT lecturers have acquired the skills for and have been utilizing the e-learning strategies by the post-ADAPT lecturers in their everyday teaching. It is thus an impact analysis cum tracer study of post-ADAPT lecturers trained in the universities, Colleges of Education, and Polytechnics in the South Western zone of Nigeria.

1.1 STRUCTURE OF THE ADAPT PROJECT

The Digital Bridge institute was established in May 2004 as a centre of excellence for information and communication technology training and Education with the mandate to “provide the capability to formulate and implement pilot projects demonstrating the application of ICT in relevant fields of importance in Nigeria" (Ogunfemi,2006). One such pilot project was ADAPT aimed at providing a platform for repositioning the Nigerian workforce with a view to developing a framework in order to disseminate ICT ie society as well as incorporate it into the socio-economic development scheme. The initial ADAPT

plan was to train two thousand, two hundred and sixty (2,260) members of the academia annually for a number of years with a view of sharpening their skills and repositioning them to meet the challenges posed by research in various fields, such as teaching, networking between universities and institutions of higher learning at home and abroad as well as expanding education delivery to students of different learning modes (Ogunfemi,2006). The challenge before the post-ADAPT participants is that of integrating ICT into teaching such that a major shift from an Orthodox teaching system to student-centered teaching that employs the powerful tools of ICT in tapping potential in students is achieved in Nigeria.

ADAPT participants are drawn annually by nomination from their various heads of institutions for the six-day training by ICT professionals from the DBL. The curriculum consists of:

- Introduction to computer and ICT
- Computer communication, intranet, and internet
- Elements of word processing
- Elements of spreadsheet
- Elements of presentation

About ten (10) nominees drawn from different tertiary institutions (totaling about one hundred participants per training session) are trained for one week in an atmosphere that is not only conducive to learning but affords each participant opportunity for hands-on activities throughout the period under the guidance of highly qualified and skilled ICT resource persons. Internet facilities are also provided for participants' use. At the end of 2008, a total of 4,184 staff of tertiary institutions benefited from the programme which is all-expense free. A total of 1,200 participants were targeted and trained in 2010

1.2 STATEMENT OF THE PROBLEM

Since there has been so much talk about the benefits of the use of ICT tools in revolutionizing education delivery in Nigeria through e-learning strategies as well as information sourcing and dissemination (Efedi & Moemeke, 2010, Adeyegbe & Modupe, 2003; Wodi & Dokubo,2003) the ADAPT project was a welcome initiative by all institutions of higher learning in Nigeria. The zeal to participate in the training and to acquire the skills inherent was high. Participants, after each training session, praised the initiative and the sponsors of the project while pledging utility, application, and extension of the knowledge and skills acquired through further self-sponsored training. However, Okanlawon (2009) expressed the view that mere computer literacy will not help curriculum implementers integrate ICT in schools unless a more pedagogy-based and integrated use of ICT is adopted. In his view, pedagogical competency addresses such questions as why, when, where, and how ICT tools will contribute to the development and achievement of learning objectives. It has therefore become necessary to assess the impact of the ADAPT training on academic staff's ability

to optimize e-learning modes for effective educational service deliveries in tertiary institutions in Nigeria. Has there been an improvement in lecturers' application of ICT knowledge and skills in innovating instructional activities after ADAPT training? Is there any noticeable departure by ex-participants of ADAPT from traditional lecture delivery patterns to the use of ICT tools in lecture deliveries? The information from this study is expected to help operators re-engineer the project for maximum benefit since the project is still ongoing as well as justify the huge expenditure on the programme.

1.3 RESEARCH QUESTIONS

The following research questions were answered in the study

(1) What is the frequency of post-ADAPT-trained academics' use of ICT tools in curriculum delivery?

(2) What is post-ADAPT lecturers' perception of their competency level in the utilization of ICT tools in lecture delivery after their training?

1.4 SIGNIFICANCE OF THE STUDY

The information from the study will advise the operators of the ADAPT project on how best to improve the programme for better and qualitative ICT skill acquisition. It will also enable the operators of the project to justify the high expenditure/investment on the project. The result will also inform decisions for continuity or otherwise of the training programme. The result will further give insight into the current pedagogic needs of academics with regard to curriculum delivery. It will enable the ex-participants to appraise the relevance of the training they have received and encourage them to take advantage of the skills acquired in improving education delivery in their institutions

1.5 METHOD OF THE STUDY

A total of five hundred (500) ex-participants of the ADAPT project were sampled using a stratified random sampling technique from the databases from different training locations from 2006 to 2010. Stratification was on the basis of the location where training was done and the year of the training. Two questionnaires constructed by the researcher were mailed to the ex-participants electronically. The first questionnaire sought information on the particular ICT tools that the ex-participants have been utilizing since the training and constraint if any. The second questionnaire assessed the training based on today's global realities in educational service delivery and suggestions for improvement of the project. A channel of communication was opened electronically to enable subjects to ask for information and receive answers/feedback online. Correctly filled questionnaires returned after about one month of receipt were used for the study.

Only three hundred and twenty-two (322) respondents met this condition and formed the sample for the study.

1.6 RESULTS

Data gathered from the returned questionnaires were analyzed using percentages and means.

TABLE 1:Post-ADAPT lecturers' use of selected ICT tools in lecture delivery.

S/N	ICT Tools for Educational Delivery	Always	%	Some times	%	Never	%	Mean	SD
1	Computer	40	12.4	260	80.7	22	6.8	1.19	0.81
2	E-mail/test message of lecture materials/studies	21	6.5	10	3.1	291	92.5	1.16	0.84
3	Computer networks with lecturers and students	62	19.22	109	33.85	151	46.89	1.72	0.28
4	Use and reference to e-libraries	240	74.5	50	15.5	32	9.9	2.65	+0.65
5	Audio conferencing	12	3.7	6	1.9	304	94.4	1.09	0.19
6	Video conferencing	28	8.7	32	9.9	262	81.4	1.2	0.80
7	Prepared lectures in CD Rom	42	13.0	64	19.9	216	67.1	1.46	0.54
8	Web-based courses/lectures	48	14.9	73	22.7	201	62.4	1.52	0.48
9	Internet browsing for materials	291	90.4	26	8.1	5	1.6	2.98	+0.98
10	PC in class word-Processing result of students' personal with	78	24.2	110	34.2	138	42.9	1.84	0.16
11	Spreadsheet (Excel works)	61	18.9	24	7.5	237	73.6	1.45	0.55
12	Peanut software (winsters)	16	5.0	2	0.6	308	95.7	1.12	0.88
13	Internet browser (eg. Netsope)	18	5.6	56	17.4	248	77.0	1.29	0.79

14	Using prepared lectures available in the online	112	34.8	41	12.7	169	52.5	1.82	0.18
15	Evaluating student work electronically	16	5.0	55	17.1	251	78.0	1.27	0.73
16	Using mailing to pass information and receive from students	47	14.6	14	4.4	261	81.0	1.34	0.66
17	Giving e-assignment	47	14.6	12	3.7	263	81.7	1.33	0.76
18	The joint download of lecture and proceedings from internet	78	24.2	160	49.7	184	57.1	2.29	+029
19	Printing and saving portions of web pages for class use	120	37.3	150	46.6	52	16.2	2.21	+0.21
20	Uploading lectures on the internet for other users far in location	54	16.8	60	18.6	206	64.0	1.52	0.48
21	Using PowerPoint/ presentation in lecture delivery	78	24.2	106	32.9	138	42.9	1.81	0.19
22	Using excel to calculate C.A. scores	51	15.8	12	3.7	259	80.4	1.35	0.65
23	Global information networking with partners in other parts of the world.	56	17.4	22	6.8	244	75.8	1.42	0.50

Table 1 above revealed that apart from the general use of computers, reference to e-libraries (90%), and browsing the internet by both lecturers and students (98.5%), there is generally poor usage of ICT tools in the everyday lecture delivery by Post-ADAPT lecturers in tertiary institutions. Indications revealed that while lecturers use computers to source materials for their research, they are often times not applied as a tool for teaching. However,81% of the sample agreed that their personal knowledge and use of the computer have tremendously improved since the ADAPT training. Twelve percent of the sample said they still show apathy to the use of the computer as shown in the fact that they still depend on others' hands for computer jobs.

Table 2:3 Frequency and percentage of subjects' perception of efficiency of ICT use in Curriculum delivery.

S/N		Very high	High	Low	Very low
1	Speed and accuracy of lecture delivery	250 (77.6)	65 (20.2)	15 (2.20)	- (0)
2	The convenience of lecturer and student	201 (62.4)	80 (24.8)	38 (11.8)	3 (0.93)
3	Comprehensiveness of learning	78 (24.2)	210 (65.2)	24 (7.5)	10 (3.1)
4	Individuality in students' work	141 (43.8)	80 (24.8)	70 (21.7)	31 (9.6)
5	Innovativeness of teacher	150 46.6)	145 (45)	20 (6.2)	7 (2.2)
6	Integrated learning	172 (53.4)	143 (44.4)	7 (2.2)	- (0)
7	Applicability/relevance of learning to life	103 (32)	80 (24.8)	76 (23.6)	63 (19.6)
8	The general performance of students	163 (50.6)	122 (37.8)	26 (8.1)	10 (3.1)
9	Handling of large student population	144 (44.7)	161 (50)	10 (3.1)	7 (2.8)
10	Transferability of learning	156 (48.4)	121 (37.6)	40 (12.4)	5 (0.2)
11	Tracking of students' activities	198 (61.5)	82 (25.5)	28 (8.7)	14 (4.3)

Table 2.3 reveals a high efficacy of the use of ICT tools in the achievement of major learning expectations by post-ADAPT lecturers in tertiary institutions in the sample. In all the eleven elements in the scale, there was a unanimous agreement that their use of ICT tools in lecture delivery tremendously improved the efficacy of teaching and learning. They agreed that whenever ICT tools are available for use and are utilized, it eased the rigors of teaching and learning as well as facilitates students' meaningful learning.83% of the respondents blamed the non-availability of ICT infrastructures and equipment, poor power supply as well as limited knowledge and skill exhibition by lecturers as possible reasons for poor ICT tool utilization in lecture delivery.

DISCUSSION OF FINDING

The high percentage of post-ADAPT lecturers who use traditional lecture mode was stable in this study. Although there is a high percentage of post-ADAPT lecturers' use of computers (93%), reference to e-library (90%), and browsing the internet (98.5%), the use of the ICT tools for lecture delivery and knowledge dissemination has remained low. The expected application of the tool in e-assignment, reduction in face-to-face student work, managing large class populations effectively as well as overcoming barriers in distance between

lecturer and students are still at a very poor utilization level. Electronic interaction with the lecturers indicated the following as some of the reasons for below expectation utilization of the e-tools in everyday classroom lecture delivery to include.

- Some of the lecturers trained by the ADAPT project do not have computer systems of their own.
- Most classrooms in Nigeria are not equipped with the ICT facilities needed for optimum utilization of the learning mode.
- Very poor internet access as well as extremely poor speed when available.
- Lack of personal computers and internet facilities by most students.
- Inflexible school schedules and timetables.
- High cost of commercial cyber cafés which hinders students from frequent use of the facility.
- Poor computer and ICT knowledge by some lecturers and students
- Poor energy supply
- Excess workload by lecturers
- Continuous adoption of the traditional mode of assessment and evaluation that does not take cognizance of acquired ICT skills.

This finding supports Adeyegbe and Modupe (2003) and Okogwu (2009) who separately indicated the unpreparedness of our institutions to adopt ICT for teaching and assessment. All subjects are in agreement that most of the challenges posed by today's tertiary-level classrooms can be ameliorated by the application of ICT tools in curriculum delivery. The implication of this is that while the subjects do not show any apathy toward the use of modern ICT tools, they are constrained by certain factors which must be addressed if the desire of the government for ICT access by all and capacity building will be achieved.

CONCLUSION

Based on the finding of this study, the following conclusions were made.

- Post-ADAPT lecturers still adopt the traditional mode of teaching and curriculum delivery more often.
- Most of the ADAPT-trained lecturers lack the necessary facilities and infrastructures for utilizing the knowledge and skills gained during ADAPT.
- Tertiary institutions lack the necessary infrastructure to support ICT-driven curriculum delivery.
- Because of a lack of practice, there is a need for further training for the lecturers to upgrade and update their ICT knowledge and skills.
- There is adequate awareness of the efficacy of using ICT in curriculum delivery among the ADAPT-trained lecturers.

IMPLICATIONS FOR FUTURE ADAPT AND E-LEARNING.

The findings have serious implications for ICT literacy and utilization in Nigeria. The production of a viable workforce which is the dream underlying the ADAPT project may be impaired if the trainers are not incorporating the technology into everyday use. Continuous adoption of traditional lecture mode in curriculum delivery is counterproductive and adverse to today's world of work. In line with this, therefore, it is expected that future ADAPT must look at equipping lecturers with facilities for their own practice such as computers, internet moderns, and tutors to enable them to continue to utilize knowledge and skills acquired during the training in their world of work since practice makes for perfection.

Related to the above is the need for follow-up training for the lecturers. It must be realized and understood that paradigm shifts are cumbersome. Planting and nurturing culture is also not easy. Human capacity building is the driving force for development but not directly money-yielding. Its long-run effect is worth any expenditure made to achieve it.

The school is not only an agent of social re-engineering; it is also a locomotive for empowerment and refocusing. Tertiary institutions thus deserve more attention in terms of facilities, infrastructure, and power so that 21st-century graduates will possess all the necessary equipment for operating the global competitive marketplace.

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