

The Electronic Examination in Nigerian Universities (A Case Study of NOUN)

Ndunagu J.N

Abstract— Electronic Examination is a product of Information and Communication Technology that was developed to solve problems and limitation confronting the process and procedure of conducting paper examinations. Such problems and limitation are as follows: High cost of conducting the examinations, examination leakages, missing result, lack of flexibility of examinations, long period of retrieval of results and so much more problems that give the examiners and students night mare. The problems have almost brought the conduct and credibility of print examination to the lowest ebb. This paper is geared towards improving the standard and quality of education in Nigeria, restore students' confidence and eliminate the loop holes that allow malpractices to thrive in the University system. National Open University of Nigeria (NOUN), which is the case study of this paper, is one of the Federal Universities in Nigeria which is designed to provide flexible and qualitative education in Nigeria. From the analysis of data extracted from the questionnaire administered to about 200 students from 6 study centres (randomly selected) . The data were analysed using t-test, Correlation and ANOVA statistics. Three hypotheses were raised for the study . The results showed that (i) the level of examinations conducted electronically have impact on the quality of students produced in Nigeria Universities, (ii) the advent and access to internet has brought about a significant increase in the quality of students produced in Nigeria Universities and (iii) the main successes achieved against examination malpractices are mainly due to the introduction of electronic examination. In conclusion, Electronic Examination is the way forward for our educational Institution in Nigeria.

Keywords: Electronic Examination, Examination malpractices, Information and Communication Technology, Pen-on-paper Examination.

1 INTRODUCTION

In Nigeria, University education is the focal point of higher education. It is the type of education given to individuals after secondary level of education. University Education is the nation's hope for national development. University education is expected to create needed human capital with enhanced skills that can lead to technological innovation, productivity and growth within the economy [1]. Universities are viewed in many African countries as critical institutions for development where a wide range of subjects are taught at higher level thus producing corps of educated elites to serve the community and the entire nation. Generally, University education is fundamental to the construction of a knowledge economy and society within nations.

The Federal Ministry of Education (FME) reveals that the vision of the Nigerian higher (tertiary) education system has the following expectations: To be (i) relevant and responsive to the needs of the society (ii) adequate in quantity and quality with a well motivated, highly skilled and qualified staff whose products are knowledgeable, technically competent and adequately prepared to fulfilled life and for positive contribution in the society [2].

The National Universities Commission (NUC) became a statutory body by virtue of Act No. 1 of 1974 concerned with the maintenance of high standards of quality in Nigerian

Universities. The federal government introduced system-wide accreditation of their academic programmes by provisions of Act No 16, 1985. This law empowers the NUC to lay down minimum academic standards for all the academic programmes taught in Nigerian universities and also to accredit them.

FME, observed that university education in Nigeria is in a state of decay .The recent debate about the place of Nigerian universities in the ranking of world universities has once again drawn attention to the deplorable state of the country's ivory towers and the lowly place of higher education among national priorities. Whereas Webometrics Ranking of Universities (which measures web presence and content) does not mention a single Nigerian university until after 1,600 other universities, the Quacquarelli Symonds (QS) World University Ranking, which concentrates on programme and instructional content, does not mention a Nigerian university at all. Aina et al further affirmed that federal universities in Nigeria were lacking the financial resources to maintain educational quality in the face of enrolment explosion [3],[4],[5]. The inadequate funding of the universities has had adverse effect on teaching and research and has also led to brain drain of the academics. Ayo and Akinyemi said that in this era of globalization in education, Nigeria cannot afford to run a university system

that compromises quality if she is to compete in the global economy [6]. Globalization of the world economy is the integration of economies through trade, financial flows, exchange of technology information and the movement of people. In order to meet the challenges of the 21st century and absolute internalization, there is the need for education to imbibe the global culture and adopt ardent consideration of development in line with the current technological trends. The heart of education is quality [7]. The concern for quality in university education in Nigeria is most desirable for the economic, political, scientific and technological development and advancement of any nation. Quality in education has to do with the quality in educational input and output in its entirety. The quality of the educational system can be assessed by 'how adequate and accessible the facilities and materials needed for effective teaching and learning are available in order to ensure that educational programmes meet up the national objectives. Nwanna refers to quality in education as the scale of input in the form of funds, equipment facilities, teacher and pupils alike and to the fact that the transaction and output of institutions in the form of their product are acceptable, desirable, beneficial, efficient and effective from the point of view of the government, society, private agencies and stakeholders [8]. Igwe, sees quality in higher education to cut across policy formulation to implementation of educational process covering the scope of curriculum; teaching/learning process; resources and facilities; students and teachers environment [9]. The quality of university graduates, according to Urah could be measured by how well they have been prepared for life and for service to society in various spheres of human endeavour [10]

Examination which is the process of conducting assessment or evaluation on students or learners in order to evaluate the students' understanding of knowledge impacted. It is also a process of gaining feedback or response on impacted knowledge. Olatunbosun has it that till date examination still remained the best tool for an objective assessment and evaluation of what learners have achieved after a period of schooling [11]. Hence, any action that undermines examinations poses a great threat to the validity and reliability of examination results and certificate. In the last two decades, Nigeria has witnessed an alarming rate of increase in incident of examination misconduct. Evidences abound of increasing incident of examination malpractices by students, teachers and parents. Examination malpractices has become so widespread that there is virtually no examination anywhere at all levels and even outside the formal school system that there is no one form of sharp practice or the other and that every examination seasons witness the emergence of new and ingenious ways of cheating.

In recent times, Egwunyenga has it that, the Universities in Nigeria have been facing a number of problems/crises [12]. These are largely manifested in the inadequacies in the supply of basic instructional materials facilities infrastructure, students over population, lack of accommodation for staff and student examination malfeasance among others. Currently the most disturbing of these entire problem is ex-

amination malfeasance which has posed a new challenge in the administration of education. This idea was confirmed by Olubiya et al has that since the inception of the university education, the conduct of examination as well as the process of producing results has been fraught with various problems leading to inability to release results on time, inability of some students to get their results and several incomplete results [13].

There are different ways to examine students, namely: pen-on paper, oral and electronic examination also known as e-examination.

The pen – on- paper type of examination, which is the conventional type of examination, has many defects and they are as follows: high cost of conducting the examinations, high rate of examination malpractice, high rate of examination leakages, high rate of missing result, lack of flexibility of examinations, long period of retrieval of result and so much so more are some of the problems that give the examiners and students headaches and these problems have almost brought the credibility of pen-on paper examination to the lowest ebb.

This paper is focusing on one of the products of Information and Communication Technology (ICT) in education sector, that is, Electronic Examination with particular reference to Nigerian Universities, using National Open University of Nigeria (NOUN) as a case study. ICT has revolutionized the world in which we live. Almost every field of knowledge and development known to man has gotten more than a stint of ICT. Nigerian educational system is no exception to this global trend. Nigerian education system is in a state of confusion and disarray as a result of inconsistencies, non-implementation of educational policies, corruption and corrupt practices perpetuated by all stakeholders [14]. Electronic examination is a process of carrying out students' assessment and evaluation using ICT technology facilities, as oppose to the pen – on - paper or print materials that are used traditionally or in conventional examination. Ayo defines e-examination as the conduct of examination through the web or the intranet and it reduces large proportion of work load on examination, training, grading and reviewing [15].

The National Open University of Nigeria (NOUN), which is the case study of this paper is one the 36 federal government owned universities out of 117 Universities in Nigeria. NOUN is practicing e-examination and Joint Admission and Matriculation Examination board (JAMB) has commenced e- examination, in other to combat the rising case of examination malfeasance. Ikuomola and Olayanju affirmed in their works that e-examination will help provide solutions to the problem of conventional examination [16]. Electronic examination has been applied to the following: GMAT (Graduate management Admission Test), TOEFL (Test Of English as a Foreign Language) , GRE(Graduate Record Examination), CCNA (Cisco Certified Network Associate) Oracle and ACCA(Association of Chartered Certified Accountants) examinations without any recordable incident of malpractices.

E- examination if adopted in Nigerian universities will drastically reduce the cost of conducting the examinations, re-

duce examination malpractice to the lowest minimum, has zero tolerance of missing result, very flexible because result is instant after examination. Embracing e-examination in Nigeria Universities will help redeem the standard of education in Nigeria, restore students' confidence and at the same time promote efficiency, increase the reading culture of students because of garbage in garbage out (GIGO), Spore students to read in-between lines, encourages all students to be ICT compliance, No cheating from students to lecturers, Encourage mental development, increase in students' academic performance and enhancement of prompt release of students' academic results. There is relatively calmness in the e-examination hall when compared to pen-on-paper examination hall. Adoption of e-examination in Nigeria will increase and enhance the place of Nigerian universities in the ranking of world universities.

METHODOLOGY

Survey research design was employed in this work. The study was carried out in the entire Nigeria. NOUN has 48 study centres and 8 study centres were used as samples. Random sampling method was employed in selecting the study centres used. Questionnaire type of data collection was employed and 20 hypothetical research questions were raised. Two experts went through the questions before distribution, 250 questionnaires were distributed.

RESULTS AND DISCUSSIONS

Three hypotheses that guided the study were analyzed and their findings were used for their decisions and discussions of each hypothesis.

• **Hypothesis 1**

H₀: Quality of Education in Nigerian Universities is not closely related to involvement in electronic examination.

H₁: Quality of Education in Nigerian Universities is closely related to involvement in electronic examination.

TABLE 1

QUALITY OF EDUCATION IN NIGERIAN UNIVERSITIES

	Category	No. Obsvd	Prop	Test Prop
Does involvement in Electronic Examination enhance quality of Education?	Yes	122	.51	.50
	No	115	.49	.

Total	237	1.00
-------	-----	------

Findings:

Level of Significance $\alpha = 0.05$

H₀: $\rho_1 = \rho_2$

H₁: $\rho_1 \neq \rho_2$

From table 1

$\rho_1 = 0.51$

$\rho_2 = 0.49$

After the analysis, the testing of the hypothesis shows that the null hypothesis was rejected and alternative upheld, that is, $\rho_1 > \rho_2$

Decision:

The decision shows that the Quality of education in Nigerian Universities is closely related to involvement in electronic examination.

Discussion

Quality of education according to Gaskell is the heart of education [7]. The result of this hypothesis will ameliorate the state of decay of the university education in Nigeria and enhance the position of Nigerian Universities in the ranking of world Universities. One of the benefits of e-examination is the reduction in the cost of conducting and participating in examination (that is no cost for question papers and marking of scripts rather instant grading by the computer after examination) and will take care of inadequate funding which is one of the causes of low educational quality in Nigeria according to Aina, Babalola and Samuel [3], [4], [5]. With the adoption of e-examination, universities in Nigeria will be able to compete in the global economy and meet the challenges of 21st century according to Ayo and Akinyemi [6]. Finally, the result is also supported by Nwanna [8] and confirmed by Igwe that embracing e-examination will enhance quality of education [9].

• **Hypothesis 2**

H₀: Electronic examination does not eradicate examination malpractices

H₁: Electronic examination will eradicate examination malpractices

TABLE 2

ELECTRONIC EXAMINATION AND EXAMINATION MALPRACTICE

	Category	No. Obsvd	Prop	Test Prop
Will Electronic Examination eradicate examination malpractices in Nigerian universities?	Yes	206	.87	.50
	No	31	.13	.

Total 237 1.00

Total 232 1.00

Findings:

Level of Significance $\alpha = 0.05$

$H_0: \rho_1 = \rho_2$

$H_1: \rho_1 \neq \rho_2$

From table 2

$\rho_1 = 0.87$

$\rho_2 = 0.13$

From the analysis, the null hypothesis is rejected and alternative upheld, that is, $\rho_1 > \rho_2$

Decision:

This shows that e-examination will eradicate examination malpractices in Nigerian Universities.

Discussion

The result of this hypothesis affirmed with Ikuomola and Olayanju, in their works that e-examination will provide solution to the problems of conventional examination [16]. In other words it serves as a confidence booster for the students, promote efficiency and eliminate the loop holes that allow corruption and malpractices to thrive in the university system. With the adoption of e-examination, examination malpractice will be drastically reduced to the lowest ebb, because questions are encrypted (can only be accessed by the authorized examiner). Again, one computer per student with reasonable space constraint in between the computers and flexibility in the questions (that is randomization of questions) will help in the reduction of examination malpractice in Nigerian Universities. Again, there has not been any recordable incident of malpractices in the following e-examinations: GMAT, TOEFL, GRE, CCNA, Oracle and ACCA, though, there is still need for strict invigilation.

• **Hypothesis 3**

H_0 : The adoption of electronic examination will not increase the number of ICT users in Nigeria.

H_1 : The adoption of electronic examination will increase the number of ICT users in Nigeria.

TABLE 3
ICT USERS IN NIGERIA UNIVERSITIES

	Category	No.Obsvd	Prop.	Test Prop.
Will the adoption of e-examination increase the number of ICT users in Nigerian Universities	Yes	161	.69	.50
	No	71	.31	

Findings:

Level of Significance $\alpha = 0.05$

$H_0: \rho_1 = \rho_2$

$H_1: \rho_1 \neq \rho_2$

From table 3

$\rho_1 = 0.69$

$\rho_2 = 0.31$

From the analysis, the null hypothesis is rejected and alternative upheld, that is, $\rho_1 > \rho_2$

Decision:

The decision with the help of the analysis, is that, the introduction of electronic examination will increase the number of ICT users in Nigeria.

Discussion

The use of one computer per student during e-examination will force all Nigerian university students to learn how to use computer, thereby, increasing the number of Nigerians who will be computer literate.

The result of this hypothesis was supported by Ayo and Akinyemi [6].

CONCLUSION

The quality of education in Nigerian Universities is closely related to involvement in e-examination will eradicate examination malpractice. The adoption of e-examination will increase the number of ICT users in Nigeria.

RECOMMENDATION

As a measure to curb examination malpractices, biometric data is recommended to complement the user name and password in electronic examination in Nigeria Universities.

REFERENCE

[1] Olaniyan, O. Public Finance and Higher Education in Nigeria, Proceedings of the 12th General Assembly of SSAN. . (2001) (Conference proceeding)

[2] Federal Ministry of Education. The Financing of Education in Nigeria, Education Sector Analysis of F.M.E. Abuja. The World Bank and DFID. Federal Ministry of Education (2003). Education Status Report, May, 2003. (Educational Report)

[3] Aina, O.I. Alternative Modes of Financing Higher Education in Nigeria and the Implications for University Governance. Africa Development XXVII (1 & 2). (2002) (Technical Report)

- [4] Babalola, S.K. Education and National Ethics. A Key-note Address Delivered at Workshop on Use of Global Knowledge in University Management, University of Ibadan, 22nd to 23rd April. Budget Office (2006). 2006 Budgetary Allocation to Education. Federal Republic of Nigeria. (Workshop Presentation)
- [5] Samuel T. Strategies for Raising Additional Resources for Education. *Education Today*, Vol. 10, No.1, June, p. 40-43. (2003).
- [6] Ayo S. M. and Akinyemi S. Funding Strategies for Quality University Education in Nigeria: The Principle of Fiscal Justice. *Journal of Studies in Education* . Vol. 1, No. 1:E11. (2011) (Journal)
- [7] Gaskell, J.S. Secondary School in Canada. The National Report of Exemplary School Report, Toronto: Express Publication. (1995) (School Report)
- [8] Nwanna, M.I. "Estimating returns to school quality" *Journal of Social Sciences*", 24(3),35-41 (2000) (Journal)
- [9] Igwe, S.O. "Quality of Evaluation of Teaching and Learning in Nigeria Education. In B.A. Eheazu & U.M.O. Iwovi (Eds). Minimum Standards and Accountability in Nigerian Educational system. Proceedings of the 18th Annual Congress of Academy of Education, University of Port-Harcourt. (2007) (Conference proceedings)
- [10] Urah, I. I. Quality Assurance and Institutional Stability in the Nigerian University System. *Nigerian Journal of educational admin and planning* 5 (2) July . (2005) (Journal)
- [11] Olatunbosun J.B. "Examination Malpractice in Secondary schools in Nigeria: What Sustains it? *European Journal of Education Studies* 1(3) 2009. (Journal)
- [12] Egwunyenga E.J. "Problem of Examination Malfeasance in Nigeria University: Emergent Issues and Management Options. *Journal of Social Sciences*, 21(3): 161-166 (2009) (Journal)
- [13] Olubiyi A, Ajadi T.O., Inegbedion J.O), Perception of learners on E-exam in Open and Distance Learning Institution: A case study of National Open University. . (2012) (Unpublished)
- [14] Olajunwon T. "Transforming the Nigeria Educational System: Education in Nigeria" (2010) (Unpublished)
Samuel, T. Strategies for Raising Additional Resources for Education. *Education Today*, Vol. 10, No.1, June, p. 40-43 (2003) (Journal)
- [15] Ayo, C.K. " The Prospect of E-Examination Implementation in Nigeria. " *Turkish online journal of Distance education-TOJDE v8 n4* (2007) Journal)
- [16] Ikuomola A.J. and Olayanju T.A. " N-Types Electronic Examination System: An effective approach for Combating Malpractice. (2010) (Unpublished)