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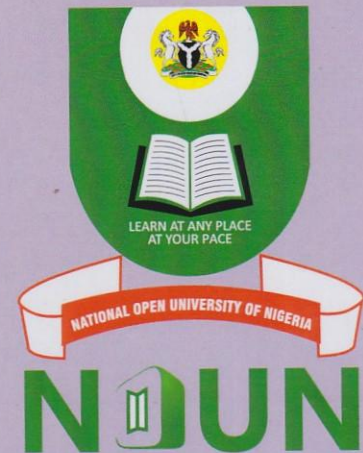
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## **BENEFITS OF THE INTEGRATION OF E-TESTING INTO THE LEARNER ASSESSMENT PROCESSES IN POLYTECHNICS IN SOUTHEASTERN NIGERIA**

By

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### **Abstract**

*This study was design to determine the benefits of the Integration of E-testing in the Learners' Assessment Processes in the Polytechnics in Southeastern Nigeria. The study adopted a descriptive survey design. The population of the study comprised all the Polytechnic lecturers in the Southeastern Nigeria. A sample of 960 lecturers was used for the study. The instrument used for data collection was a researcher developed questionnaire titled Benefits of the Integration of E-testing into the Assessment Processes of Polytechnics Rating- Scale (BIEAPPRS). Three experts in measurement and evaluation in Abia State University, Uturu validated the instrument. Crombach alpha method was used to determine the internal consistency of the items and the overall reliability coefficient of the instrument was 0.90. Data collected were analyzed. Mean and standard deviation was used to answer the research question. The result of the study showed that integration of e-testing into the learners' assessment processes in the polytechnics is beneficial. The study recommends that lecturers should be encouraged to constantly use of E-testing in carrying out their assessment. This will help to maintain standard in schools.*

**Key words:** Benefit, Integration, E-Testing, Assessment

### **Introduction**

The progress of transformation from one test method to another, rest on the degree and effort of testing professional to relay or make known the merits and limitations of test method to stakeholders. However, assessment is defined as a part of the educational process where lecturers, teachers and instructors appraise students' achievements in order to improve their academic performance.

It is also a way of collecting, measuring, analyzing, synthesizing and interpreting relevant information about a particular object of interest which give access to further educational opportunities under controlled conditions in relation to curricula objectives set for their levels, and according to the procedures that are systematic and substantively grounded. It requires assigning students' performances numerical descriptions of the extent to which they possess specific characteristics or traits measured according to specific standards, or criteria serving as a source of evidence of many aspects of an individual student's knowledge, understanding, skills and/ or abilities. However, assessment in teaching and learning is inevitable and cannot be over emphasized as it ensures effective teaching and learning and also maintains quality and standard. The quality of assessment reflects on the quality of teaching and learning of the system.

Quality assessment ensures that standard is sustained and that the certification from such assessment is genuine and worth the knowledge content of the holder. Where the contrary is the case, then public confidence on the certificates from such system begins to wane. This is the case in Nigeria, where the public is losing confidence on the certificate of her educational system, showing that something is wrong with the assessment model. The public outcry on the falling standard of education is contingent on this premise (Nnadi & Bada, 1996). In Nigeria, the traditional assessment model has been largely the paper and pencil test (PPT) or paper-based-test (PBT). The PPT has been largely characterized by a plethora of treats including but not limited to the obnoxious and hydra-headed examination malpractices, thus leading to poor quality assessment in the system. The implication is the reduction in public confidence on the outcome of the assessment.

On the other hand, the use of computers for assessment can provide several benefits for educators and test-takers (Jones, 2000). This was buttressed by Oladipo (2009) who asserts that e-testing is a system that encourages and promotes development in education as well as other sector of the economy. It helps to ensure that candidate's identity in the examination hall is efficiently cross-checked. This is why internet supported teaching are incorporating themselves more and more into the daily routine of the educational system, especially in the higher institution of learning. In addition, an effective way for test sponsors to provide a secure, consistent environment for certification and license sure is through e-testing as it enhances students' experience (Abubakar & Adebayo, 2014).

The use of computers is well known and apparent in teaching and learning process, but its integration to testing in education has not been fully utilized (Raikes & Harding, 2003). With the development of technologies, computer has evolved as a tool that can improve the accuracy and efficiency of test. Computers have transformed the ways testing is being conducted over the years and have been used to administer examination since 1970s (Liao & Ho, 2010). As computers become increasingly available in educational setting, lecturers and teachers make use of it to administer test (Trotter, 2001).

E-testing help to develop new assessment methods, by combining flexible technical possibilities, with elaborated understanding of how to assess various forms and levels of knowledge. Jim & Sean (2006) affirm that the technical quality of a test can be improved by integrating e-testing into the assessment process which can improve the reliability of scoring. Therefore, a proper preparation for examination via an introduction to the software or e-testing could be encouraged to curtail examination malpractice effectively.

Ogunlade & Olafere (2014) in their work on Perception of lecturers on CBT in Nigeria Universities affirm that lecturers had positive rating on perceived usefulness, ease and credibility. Akuegwu & Udida (2007) also carried out research on academic staff access to ICT and the management skill-oriented education in Cross River State Universities. Result obtained showed that academic staff level to ICT is significantly low and there is significant influence of academic Staff level of access to ICT on the management of skill-oriented education.

Mc Connel & Schoenfeld-Tachner (2001) opined that the inclusion of computer-based test in teaching and learning makes it possible for educators and trainers to author, schedule, deliver and report on surveys, quizzes, tests and examination. It can function independently or part of a virtual learning environment, possibly accessed via a world wide web.

In addition to the examination itself, e-testing takes care of other related activities that interact with the assessment such as test administration, setting questions and automated marking. However, Colleges and Universities receive e-testing results more quickly than those of paper and pencil test and they can make their admission decision more quickly. An individual can take e-testing with minimal or no previous computer experience since instructions provided in the basic computer tutorial before the test provides experience needed to take the test using a mouse. In addition, the inclusion of ICT in education is required to re-consider and re-think or change traditional examination methods. This has the effect of reducing the burden of marking scripts for teachers and facilitating the conduct of examination successfully. Furthermore, assessing and managing of information and developing communication skills are possible to assess online which cannot be assessed in regular essay-based examination (FME, 2012).

### **Statement of the problem**

Information and Communication Technology (ICT) has become, within a very short time one of the basic building blocks of modern society. Many countries now regard understanding it and mastering its basic skills and concepts as very crucial in education. This is because it adds value to the processes of learning and to the organization as well as administration of learning Institutions. It encompasses different type's technologies which are utilized for capturing, processing and transmitting data and information using computer facilities.

However, in as much as e-testing offers various opportunities in assessment processes such as; saves time and manpower for test administration, fewer response and interpretation errors, improves test security due to electronic transmission and encryption. The question still remains have Lecturers in the Polytechnics benefited on integration of e-testing into the assessment processes? Have institutions of higher learning benefited from using it? How many researchers have created more insight on the benefits of integration of e-testing in the assessment processes? Based on these, the study seeks to examine the benefits of the integration of e-testing into the learner assessment processes in Polytechnics in Southeastern States, Nigeria.

**Purpose of the study:** The purpose of this study is to ascertain the benefits of e-testing integration on the learner assessment processes in the polytechnics in Southeast States, Nigeria. Specifically, the study sort to ascertain the extent the polytechnic lecturers benefit on the integration of e-testing into the learners' assessment processes.

**Research question:**

To what extent have the polytechnic lecturers benefit on the integration of e-testing in the learners' assessment processes?

**Methodology:**

The study adopted descriptive survey design. The population of the study is 3,372 lecturers from the 6 (six) polytechnics in South east zone, Nigeria. The sample size is 960 drawn from 4 (four) out of the six polytechnics. Cluster random sampling technique was used to select four out of the six Polytechnics in the study area. These include two Federal and two States owned Polytechnics in the Southeast, Nigeria. The four selected Polytechnics comprised Federal Polytechnic, Nekede with 303 respondents and Akanu Ibiam Federal Polytechnic, Unwana with 231 respondents while 246 respondents from Institute of Management Technology and 180 respondents were drawn from Imo State Polytechnic, Umuagwo. The instrument used for data collection was a questionnaire developed by the researcher titled Benefits of Integration of E-testing into the Learners' Assessment Processes of Polytechnics Rating-Scale.

The questionnaire was modeled on a 4-point rating scale with response options of strongly agree (SA); Agree(A); Disagree (D) and Strongly Disagree (SD) with numerical values of 4,3,2, and 1 point assigned to each of the responses respectively. The instrument was validated by three experts in measurement and evaluation from Abia State University. Cronbach Alpha analysis was used to test the reliability which gave an index of 0.90. The research question was analyzed using mean, percentage and standard deviation. The findings showed that E-testing gives a wider coverage, fast track result publication, easy control and editing of examination questions as well as reduces impersonation.

**Research Question One**

To what extent have the polytechnic lecturers' benefits on the integration of E-testing into the learners' assessment processes? The result of analysis of data generated in respect of the benefits of integration of e-testing into the learners' assessment processes of Polytechnics are summarized and presented on Table below:

**Table: Mean and Standard Deviation on Benefits of E-testing**

S/N	Item (N = 960)	$\Sigma fx$	$\bar{X}$	SD
1	E-testing gives wider coverage of scheme in terms of setting questions	2822	2.94	0.05
2	E-testing fast-track result publication	2816	2.93	0.05
3	E-testing enables easier control and editing of examination question, test, quiz and results	3190	3.32	0.11
4	E-testing reduces impersonation during examination	2756	2.87	0.08
5	E-testing reduce the stress of marking examination scripts and recording of results	3136	3.27	0.09
6	E-testing enhances the effectiveness of academic activities and productivity	2930	3.05	0.004
7	E-testing reduces rate of missing scripts during test, quiz and examination	2908	3.03	0.01
<b>Pooled Mean</b>			<b>3.06</b>	

The table above contains the results of analysis of data generated in respect of benefits of integration of e-testing into learner assessment processes in the Polytechnics in the South-East zone, Nigeria. The results are that all the items (1-7) have mean scores ( $2.87 \leq X \leq 3.32$ ) greater than the criterion mean of 2.50. With a pooled mean ( $X$ ) of 3.06, it means that, the lecturers agreed that integration of e-testing into assessment processes of Polytechnics is very useful, including that e-testing fast-track result publication among other uses.

### **Discussion of Findings**

The researcher discussed the findings of the study based on the research question stated in the study.

Results of the analysis of data show that e-testing was found to be beneficial in assessment processes of polytechnics. The findings showed that e-testing gives a wider coverage, fast track result publication, easy control and editing of examination questions and reduces impersonation. The result also shows that e-testing reduces stress of marking examination questions, enhances academic activities and reduces missing scripts. The findings corroborate to the findings of Ayo, Akinyemi, Adebisi & Ekong (2007) on the prospects of e-examination implementation.

The findings revealed that, e-examination has the requirements or qualities to curb some of the problems that are associated with the traditional methods of examination such as impersonation and other forms of examination malpractices; in addition, the timing of examination can be spaced without reducing the quality and integrity of the examination. The findings of Sanni & Mohammed (2015) on perception of students on the use of computer-based testing conform to the findings of this study. Their findings revealed that, majority of the respondents confirmed that, CBT can limit the rate of examination malpractice. The research work of Alabi, Isah & Oyekunle (2012) and Adegbiya, Fakamogbon & Daramola (2012) conform to the findings of this study. Their findings showed that e-assessment as a mode of assessing students is interesting, suitable to control all the negative practices encountered in the conventional examination. Their findings advocate the widespread adoption of CBT method for the conduct of not just the post-UTME examination but also other University based examination.

### **Conclusion**

The study assessed the Benefits of the integration of e-testing in the learner assessment processes of polytechnics in South-East geopolitical zone, Nigeria. Based on the findings of the study, the researcher concludes and recommends that:

The integration of e-testing into the learner assessment processes of the polytechnics is beneficial, therefore the stress of marking large number of answer scripts will be reduced. The time wasted on marking such scripts may be used for some other academic and research activities such as book writing, conferences and workshops.

### **Recommendations**

1. Government policy on ICTs should be fully implemented and make available adequate fund to enhance the performance of ICT sector as well as reinforce computer curriculum at higher level to make all students computer literate
2. E-testing integration should be adopted in polytechnics in other geo-political zones in Nigeria since it curbs examination malpractice more efficiently and solve the problems of delay or non-release of examination results.

## References

- Abubakar, A. S. & Adebayo, F. O. (2014): Using Computer Based Test Method for the Conduct of Examination in Nigeria: Prospects, Challenges and Strategies. *Mediterranean journal of Social Sciences*, 5 (2) 47-56
- Adedoja, G. O. & Fakokunde, J. B (2014): Effect of computer-based instructional puzzle on students' learning outcomes and retention in social studies. *International Journal of Humanities and Social Science*, 5 (11) 56-89
- Akuegwu, E. P. & Udida, L.A (2007): ICT management for staff and student's empowerment in University of Calabar. A research grant proposal presented to the Association of African Universities (AAU), Accra North Ghana.
- Alabi, A.T., Isaa, A.O. & Oyekunle, R. A. (2012): The use of computer-based testing method for the conduct of examination at the University of Ilorin. *International Journal of Learning and Development*, 2 (3) 68-80
- Ayo, C. K.; Akinyemi, I.O., Adebisi, A. A. & Ekong, U.O. (2007): The Prospect of e-examination implementation in Nigeria, *Turkish Online journal of Distance Education- TOJDE*, 8(4), 125-134
- Federal Ministry of Education (FME) (2012): 4-year strategic plan for the development of Education Sector: 2011-2015.
- Jim, R & Sean, M. (2006): *Literature Reviews of E – Assessment, Future Lab Series, Report 10, 8 (5)*. Retrieved on September 14, 2014 from <http://hal.archives-ouvertes.fr>.
- Jones, J.P. (2000): Promoting stakeholder acceptance of CBT. Paper presented at the computer-based testing applications for the new millennium by the association of test publishers, New York.
- Liao, S.H. & Ho, S.H. (2010): Investment project valuation based on a fuzzy binomial approach. *Journal of information sciences*, 180 (11): 2124 – 2133. [www.elsevier.com/locate/ins](http://www.elsevier.com/locate/ins).
- MC Connell, S. & Schoenfeld –Tachner .R. (2001): Transferring your passion for teaching to the online environment: A five step instructional development model. *E-Journal of instructional science and Technology*, 4(1), 12-20
- Nnadi, C. and Badah, S. (1996): The falling standard of education in Nigeria. *Nigeria journal of vocational education* 2(3), 98-115
- Ogunlade. O.O. & Olafere, F.O. (2014): Lecturer's perception of computer based test in Nigeria Universities. Retrieved on December 2018 from <http://www.aiou.edu.pk>
- Oladipo, T. (2009): More Tertiary Institutions embrace electronic testing. Retrieved from ETC Intranet Portal Copyright 28 March, 2009.
- Raikes, N. & Harding, R. (2003): The horseless carriage stage: replacing conventional measures assessment in education. *Journal of Assessment for the Digital Age*. Volume 10 Issue 3 103, and 267-77. <https://doi.org/10.1080/0969594032000148136>
- Sanni, A.A. & Mohammed, M.F. (2015): Computer based testing (CBT): an assessment of the students' perception of JAMB UTME in Nigeria *Computing Information systems, Development information and allied research journal*. 6 (2), June, 2015. [www.cisdijournal.net](http://www.cisdijournal.net).
- Trotter, A. (2001): Testing firms see future market in online assessment. *Journal of education week Bethesda* Volume 20 Issue 40: 30-35