

Influence of Computer-Based Test (CBT) on Examination Malpractice in Public Examinations

Nwoke, Bright Ihechukwu Ph.D¹, Osuji, Catherine Uchechukwu Ph.D²,
Agi, Ugochukwu Kysburn Ph.D³

¹Department Of Mathematics Alvan Ikoku Federal College Of Education, Owerri Imo State

²Department of Educational Foundations, Faculty Of Technical And Science Education
Rivers State University Of Science And technology Port Harcourt

³Department Of Foundations/Management, Faculty Of Education, Ignatius Ajuru University
Port Harcourt Rivers State

Abstract: *The study investigated the reduction of examination malpractice in public examinations through computer-based test (CBT) mode of examination. The population of the study consists of all senior secondary three (SS3) students of nine (9) government owned schools in Owerri Municipal Council who sat for 2016 UTME using CBT. The study adopted the descriptive survey research design. A sample of 320 students was selected for the study through stratified random sampling technique. A 15 item likert 4-points of questionnaire was used in data collection. It had reliability Coefficient of 0.70 determined using Pearson's Product Moment Correlation Coefficient. The data generated was analyzed using mean and standard deviation to answer research questions while the hypotheses were analyzed using chi-square and t-test statistical tools tested at 0.05 level of significance. The result of the study showed that CBT effectively reduced examination malpractice. Based on the results it was recommended that, government, NGOs and private organizations should join efforts with Joint Admission and Matriculation Board (JAMB) to build CBT centers across the country to enhance the boards carrying capacity.*

Keywords: *computer based test(CBT), examination malpractice*

I. Introduction

Examination is the process of assessing understanding, knowledge and academic ability of an individual within a given period. Examinations are arranged to evaluate the academic achievement of students and to know whether they have achieved a standard of academic learning and knowledge (Suleman, Gul, Ambrin & Kamran (2015). Nnam and Inah (2015) opined that examination is a yardstick against which students or candidates' competence and progress are formally measured and appraised in the education sector. According to Kpangban, Ajaja and Umedhe (2008), examination is an assessment intended to measure knowledge, skills, attitude, physical fitness or classification in many other topics such as beliefs. Omemu (2015) noted that teaching and learning become more effective when the students are subjected to an examination process to determine the extent to which the students have assimilated the content of the instruction given and the teacher can also access himself from the performance of the students. The outcome of examinations goes a long way to determine whether the objectives of the academic process are being met or not. Irrespective of the huge relevance of examination in academic process, a lot of factors have be-deviled its reliability, one of such factors is examination malpractice.

Examination malpractice is an illegal behaviour by a candidate before, during or after the examination in other to achieve undue success easily. Adedojun (2003) defined examination malpractice to include misconduct or any other act not in consonance with the rules and regulations guiding the examination with a view to obtaining good result by fraudulent means. Wilayat (2009) noted that examination malpractice is any illegal act committed by a student single handedly or in collaboration with others; like fellow students, parents, teachers, supervisors, invigilators, printers and anybody or group of people before, during or after examination in order to obtain underserved marks or grades. Nwana (2000) defined examination malpractice as behaviour contrary to a set of expected code of conduct or contrary to a set of ethics and norms exhibited in the cause of examination by person or group of persons. Examination malpractice has become a cankerworm that has eaten deep into the academic fabrics of students in Nigerian schools. This has created doubts on academic certificates issued to graduates from Nigerian schools.

Examination malpractice comes in different forms which includes, coping, sorting, bringing foreign materials into examination halls, impersonation, exchange of scripts, use of electronic devices such as phones, calculators collusion with invigilators, and exam officers smuggling scripts written outside into exam halls. Innovative approaches in education has also given rise to innovations in examination malpractice as students can

now send questions and answers to their colleagues in any part of the country through electronic means which negates the conduct of examination.

Uwandiae (1997), Bolarine (2002), Anwanbor (2011) and JAMB (2003) in Akanni and Odofin (2015) opined that the great emphasis on certificate as a means of employment or progress from one point to the other makes students more desperate to acquire certificates by all means thus culminating in examination malpractices. Aina (1991) and Aliyu (1991) in Zakka (2014) noted that the desire to pass at all cost is responsible for examination malpractices. School management and parents tend to push on wards to get their certificates and good grades by all means in order to secure employment or admission into the best higher institution. Ukpabi (2015) indicated that the major causes of examination malpractices include, laziness of students, large population of students in many schools, desperation among students to pass exams, wide and difficult syllabus in many subjects, inadequate preparation for exams, corrupt invigilators and supervisors.

The adverse effect of examination malpractice in the standard of education in Nigeria cannot be overstretched. Students no longer take their studies serious, creativity and resourcefulness among the students is thrown to air. Teachers are not respected anymore, employees are not competent on jobs they are employed for as a result of their certificate.

This worrisome trend has warranted examination bodies (JAMB) to source for remedies to examination malpractice in public examination, because it could lead to a total collapse in the education system if allowed to continuously prevail. One of such methods adopted to checkmate examination malpractice in public examinations such as the Unified Tertiary Matriculation Examination (UTME) is the Computer Based Test (CBT) mode of examination. Computer Based Testing (CBT) mode has emerged as one of the recent innovative approaches to assessments by examination bodies against the Pencil and Paper Testing (PPT) mode. Computer-based test (CBT) is the taking of a test on computer instead of using Paper and Pencil. Computer-based test can also be defined as test or assessments that are administered by computer in either stand-alone or networked configuration or by other technology devices linked to the internet or the World Wide Web (Olsen 2000).

Ojirinde (2015) noted that the introduction of computer based test (CBT) has led to reduction in exam malpractice in the country. It was noted that the introduction of the CBT was for the development of the Nigerian child and the betterment of all Nigerians desirous of improvement in the educational standard. Ojirinde further expressed that with CBT our schools will be forced to follow our school curriculum as it affects Information Technology and above all, the Board opted for CBT so as to ensure global best practice in the conduct of examination.

Statement of the Problem

Examination malpractice is the greatest academic ill disturbing the Nigerian education system especially at the secondary education sector. Studies have shown that a lot of failures and anomalies happen in the careers of individuals because of the impact of the scourge of examination malpractice at the secondary school level of Education (Zakka 2014). Many attempts have been made by government agencies, school authorities, examination bodies to redirect the Nigerian students from the menace of examination malpractice, but to no avail. Therefore, this study was carried out to determine whether the Computer Based Testing (CBT) mode will reduce examination in public examinations in Nigeria.

Purpose of the Study

The main purpose of this study was to determine the influence of Computer Based Testing (CBT) mode on reduction of examination malpractice in public examinations. Specifically, the study will determine whether:

- computer Based Testing (CBT) mode will reduce examination malpractice among UTME candidates,
- any difference exists between the mean responses of male and female UTME candidates on reduction of examination malpractice through CBT mode.

Research Questions

The following research questions were drawn for the study.

1. To what extent will Computer Based Testing (CBT) mode reduce examination malpractice among UTME candidates?
2. What is the difference between the mean responses of male and female UTME candidates on reduction of examination malpractice through CBT mode?

Hypotheses

The following hypotheses were formulated for the study:

Ho₁: There is no significant relationship between computer based test (CBT) mode and reduction in examination malpractice among UTME candidates.

Ho₂: There is no significance difference between the mean responses of male and female UTME candidates on reduction of examination malpractice through CBT mode.

II. Methodology

The design of this study was the descriptive survey research type. This was used to determine the opinion of students on Computer Based Testing (CBT) mode and its effectiveness in reducing examination malpractice. The population of the study consists of all senior secondary school three (SS3) students who sat for Unified Tertiary Matriculation Examination (UTME) 2016 using the Computer Based Testing (CBT) mode. A sample of three hundred and twenty (320) senior secondary (SS3) students drawn through stratified random sampling technique was used for the study. This comprised of one hundred and fifty two (152) male and one hundred and sixty eight (168) females.

The instrument for data collection was a 20 item likert 4-point type of questionnaire (weighted; strongly agree(SA)=4points, agree(A)=3points, disagree(D)=2points, strongly disagree(SD)=1point). The title was “Computer Based Test (CBT) and Reduction in Examination Malpractice” (CBTREM). It was divided into two parts. Part A was constructed to elicit information on respondents’ characteristics while part B was constructed to elicit information on the objectives of the study.

The face and content validity of the instrument was determined by two experts in measurement and evaluation and an ICT expert. Their inputs were given consideration in modification of the instrument. To determine the reliability of the instrument, it was administered on 20 students outside the study sample but with the same characteristics through test-retest method. Their result was analyzed using Pearson’s product moment correlation formula, this gave a reliability coefficient (r) of 0.70 which was acceptable for the study.

The instrument was administered to the respondents on face to face with the help of head teachers of the selected schools. The researcher addressed the students based on the purpose of the study and assured them that the information given will be used strictly for the study only. They were then allowed to read through the instructions and fill out the questionnaires given to them. The completed questionnaires were retrieved from the students instantly.

The data generated were collated and tabulated. The research questions were answered using mean and standard deviation while the hypotheses were tested using chi-square and t-test statistical tools at 0.05 level of significance. To answer the research questions, the decision was based on the instrument scale mean of 2.50. Any item with mean response within 2.50 and above was accepted while any below 2.50 was rejected.

III. Result

Research Question One: To what extent will Computer Based Testing (CBT) mode reduce examination malpractice among UTME candidates?

S/N	Item	Mean	SD	Remark
1	Computer Based Testing (CBT) does not allow coping in the exam hall.	3.10	0.71	Accepted
2	In Computer Based Testing (CBT) transfer of exam paper is not possible.	3.00	0.71	Accepted
3	Impersonation of candidates is not allowed in CBT mode.	2.94	0.81	Accepted
4	Use of phones to cheat is not possible in CBT mode.	2.82	0.82	Accepted
5	External agents are not given opportunity in CBT mode of exam.	2.86	0.85	Accepted
6	Books cannot be used to cheat in CBT mode of exam.	2.96	0.80	Accepted
7	In Computer Based Testing (CBT) mode of exam, smuggling of scripts from outside hall is not possible.	3.20	0.62	Accepted
8	CBT mode of exam does not allow invigilators to aid students in cheating.	2.72	1.02	Accepted
9	CBT mode of examination does not allow students to cheat through interaction.	2.90	0.72	Accepted
10	Students cannot bring in scientific electronic calculators for use in CBT.	2.81	0.80	Accepted
11	In CBT mode of exam students cannot engage in horse trading in the hall.	2.62	1.01	Accepted

12	Students write their exams within the specified time to avoid logging out.	3.01	0.69	Accepted
13	Results of CBT mode of exam are released within a short period of time which does not create room for cheating.	3.14	0.70	Accepted
14	Questions in CBT are given in types to reduce cheating.	3.02	0.73	Accepted
15	CBT mode does not give room for leakage of exam questions to students.	3.32	0.65	Accepted
Grand mean = 2.96				

Table 1 shows that items 1-15 were all accepted as they had mean responses greater than 2.50. This implies that they are all influences of CBT mode on examination malpractice. Also the grand mean of 2.96 implies high positive response among the students.

Research Question Two: What is the difference between the mean responses of male and female UTME candidates on reduction of examination malpractice through CBT mode?

Table 2: Difference between male and female responses

Gender	N	Mean(\bar{x})	SD	Different in Mean
Male	152	2.92	0.85	0.05
Female	168	2.98	0.80	

Table 2 shows that, a difference in mean response of 0.05 exists between male and female candidates on CBT mode of examination and reduction of examination malpractice. Though the difference is minor, it is in favour of the female students.

H_01 : There is no significant relationship between CBT mode and reduction in examination malpractice among UTME candidates.

Table 3: Summary of X^2 analysis

N	Rolls	Colum	Df	X^2 .Cal	X^2 .0.05	P.value
320	15	4	42	195.225	58.124	0.000

The table shows that chi-square (x^2) calculated value (195.225) is greater than the table value (58.124) at 0.05 level of significance. Also, P-value (0.000) is less than α -value (0.05). Based on the result, the null hypothesis is rejected and alternative accepted at 0.05 level of significance. This implies that, there is a significant relationship between CBT mode of examination and reduction in examination malpractice in public examination.

H_02 : There is no significance difference between the mean responses of male and female UTME candidates on reduction of examination malpractice through CBT mode.

Table 4: Summary of t-test analysis

Gender	n	Mean(\bar{x})	SD	Df	t-cal	$t_{0.05}$
Male	152	2.93	0.85			
Female	168	2.98	0.80	318	0.172	1.645

Table 4 shows that the t-calculated value (0.172) is less than the critical value (1.645) at 0.05 level of significance. Based on the result, the null hypothesis is upheld at 0.05 level of significant.

IV. Discussion of Findings

The study revealed that, the use of computer based test (CBT) mode of examination against the pencil and paper mode is very effective in the reduction of examination malpractice in public exams. This was clearly evident in the outcome of students responses on table 1 where all the items associated with CBT mode of examination were all accepted and had a high positive grand mean. The result also showed a statistical significant relationship between computer based test (CBT) mode of examination and reduction in examination malpractice in public examinations. These results are consistent with the claim of Ojirinde in Olusegun (2014) which noted that, the reasons for adopting CBT fully in the conduct of UTME is that it would completely curb examination malpractice as well as eliminate result blackout.

Also, the result revealed a minor difference between the mean responses of male and female candidates on reduction of examination malpractice through CBT mode. The result was not also statistically significant, this further gives credence to Ojirinde (2015) who noted that, at the end, it was a win-win for the Board, the candidate, parents and the Nigerian education.

V. Conclusion

The results of the study revealed that the application of computer based test (CBT) mode of examination reduced examination malpractice in public examination

VI. Recommendations

Based on the result of the study the following recommendations are made:

1. The government, NGOs and private organizations should join hands with Joint Admission and Matriculation Board (JAMB) to build CBT centers across the nation to enhance their carrying capacities during examinations.
2. The government and the board should employ and train more hands to enhance the smooth running of CBT mode of examinations.
3. Considering the success witnessed in public examination, CBT mode of examinations should be gradually introduced into institutions of higher learning especially through general studies to also reduce the academic crime rate.

Reference

- [1]. Adedokun, J.A. (2003). Measurement and evaluation in the classroom. Sagamu: Stronghold Educational Publishers.
- [2]. Akanni, O.O. & Odojin, B. (2015). Reducing examination malpractice in Nigerian schools through effective continuous assessment (CA) techniques as an alternative to one-shot examination in Osun State Nigeria. *American Journal of Educational Research* 3(6), 783-789.
- [3]. Bolarin, T.A. (2002). Causes solution to exam fraud: Thisdayonline.htm retrieved 1st July 2016.
- [4]. Nnam, M.U. & Inah, A.F. (2015). Empirical investigation into the causes, forms and consequences of examination malpractice in Nigeria institutions of higher learning. *International Journal of Novel Research in Humanity and Social Sciences*, 2(1): 52-62.
- [5]. Nwana, O.C. (2000). Aberration in the Nigerian education system. UNESCO, Abuja Office Nigeria.
- [6]. Ojirinde, D. (2015). Reducing exam malpractice through Computer-Based Tests. <http://www.Guardianonline.com> retrieved on Sunday 19, 2016
- [7]. Olsen, F.B. (2000). "ATP computerized testing guidelines: current educational measurement theory and new standards." paper presented at the association of test publishers conference on computer based testing. Application for New Millenium Carmel Valley Rauch, Camel, California.
- [8]. Olusegun, F. (2014). JAMB: CBT will curb exam malpractices, eliminate result blackout. Web.
- [9]. Omemu, F. (2015). Causes of examination malpractice in Nigeria schools. *British Journal of Education* 3(7) 34-41.
- [10]. Suleman, Q., Gul, R.Ambrin, S. & Kamran, K. (2015). Factors contributing to examination malpractices at secondary school level in Kohat Division, Pakistan. *Journal of Education and Learning* 9(2) 165-183.
- [11]. Ukpabi, M. (2015). Examination malpractice: causes effect and solution of exam malpractice. MUBlog Entertainment <https://muhealukpabi.wordpress.com/2015/01/05examination-malpractice> retrieved on 2nd July 2016.
- [12]. Wilayat, M. (2009). Causes of examination malpractice/unfair Means <http://research-education-edu.blogspot.com/2009/07/examination-malpractice.html>. Retrieved on 29th June 2016.
- [13]. Zakka, J. (2014). Innovative strategies for curbing examination malpractices in public examinations in Nigeria. University of Nigeria. Unpublished M.Ed Thesis.