

STATISTICAL ANALYSIS OF EXAMINATION MALPRACTICE CONCEPTS IN NIGERIA

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Abstract. The study was used to examine examination malpractice concept in Olabisi Onabanjo University, Ago Iwoye, Ogun State, Nigeria. The concepts investigated were methods, causes effects and provision of possible solutions to curtail examination malpractice. The methodologies used were Descriptive Statistics and Contingency table test. The results of the Contingency table test indicated that cases of examination malpractice are independent and vary from one discipline to the other. The highest occurrence of examination malpractice in the University was indicated to occur in non-science discipline. The responses of the 120 respondents based on all the research questions indicated that Micro-chip is the most often used of the methods, lack of confidence as a result of inadequate preparation and peer/societal influence are the major causes of getting involved in examination malpractice. The respondents agreed that the effects of examination malpractice when caught were dismissal, suspension, withdrawal and other form of disciplinary actions. The proffered solutions based

on the analysis are maintaining high standard of education, proper enlighten on the effects of examination malpractice, sanctioning of erring students and staff, and strictly compliance to University rules and regulations. Concussively, the findings indicated that Government must properly fund the Universities, the University Staff must be willing, students should be properly monitored and be made to obey the University rules and regulation accordingly.

Keywords: examination malpractice, descriptive statistics, contingency table test, test of hypothesis, micro-chip

Introduction

Examination malpractice is not a new phenomenon in Nigeria University system (Solomon, 2014). The social problem of examination malpractices has become a giant evil which is very difficult to combat in Nigerian education sector (Omemu, 2015). It is a problem which has eaten deep into the bone marrow of Nigerian educational system from the primary school level to the tertiary institutions of learning (Romina, 2013). It is a problem which has created a serious headache for the concerned educational stakeholders in the society. The government, corporate examination bodies, right thinking parents, law abiding students and honest citizens are alarmingly concerned with the problem as a result of the evils inherent in the problem of examination malpractices (Ojo & Olumuyiwa, 2011).

The problem of examination malpractices needs constant examination and re-examination. More causative factors, the forms it takes, its effects and the suggested solutions are being added every time to the ones that had been discovered in the past. The National Universities Commission (NUC) rose up to tackle this menace, which has eaten up the education system of the country by declaring War Against Sorting (WAS) in Nigeria Universities. As the body identified sorting, which could be in the form of money, gift items or sex as the

cankerworm eating up the quality of the education system. Thus, the commission has directed all universities to mount aggressive awareness campaign against examination malpractice and its consequence on campuses and even set up committee with the sole objective of eradicating academic vices in their university (Akinrefon et al., 2016). From the available record, Nigeria adopted most of educational system and policies from the western world but seems to be having problem with examination malpractices and functional education which will allow the citizens to put in to practical use skills that are learned during schooling (Odia & Omofonmwan, 2007). There are indications that Nigerian societies attached high premium to paper qualification and material wealth than they do with what goes on in the school and the school learning. Perhaps this could be one of the reasons why the issue of Examination malpractice and unemployment has become the biggest problem facing educational development in Nigeria (Amadi & Opuiyo, 2018).

In fact, at all levels of education there is serious cheating by the students to ensure they passed at either internal or external public examinations (Omotosho, 1990). Some students cannot defend the grade obtained in the examination. In some cases, Primary and Secondary School students are found not to be able to spell their name or write the name of their school correctly. Worst still is report of some Medical Doctors who cannot defend their certificate by not been able to perform any operation or prescribe good drugs. That is to say that educational standard is falling and something urgent needs to be done to avert the trend.

Several researches have been carried out on examination malpractices and this include Onuka & Durowoju (2013), that claimed that agents of examination malpractice in our society are teachers, parents, examination supervisors, invigilators, security men, guardians, students, school managements and their staff. Aderogba, (2011) identified poor economy, the urge for credentials rather than education, system error, loopholes, teachers' status, upbringing of the chil-

dren, parents and family history, poverty, frustration, pride, quest for paper qualification and desire to be in business by proprietors of private schools and colleges as the prime factors which cause the problem of examination malpractice. Jekayinfa et al., (2011) argued that there is an increase in moral problems in the Nigerian society, and as a result of this moral laxity, some individuals and institutions with moral problems are known to have aided and abetted frauds during the public examinations and the private ones. Asinya (2012) argued that the causes of examination malpractice are borne out of the attempt to avoid failure and consolidate one's excellent performances and the financial greed on the part of school and examination boards' officials.

Onuka & Durowoju (2013) identified lateness of invigilators and supervisor to exam hall, lateness of students to exam hall, undue favouritism from invigilators to students, leakage of question papers in the process of setting, printing, packaging, storing and distribution, impersonation, disclosing candidate's identity on answer booklets and bribing or influencing staff invigilators and examiners, allotment of choice examination centres, supervisors demanding for particular centres, leaking information about question papers, using of mobile phone during examination, smuggling of answer books in or outside the examination centre, tearing of examination questions, tearing of examination answer sheet, writing of answers on the chalk board during examination and dictating answers during examination, as forms of examination malpractice.

In essence, this research will be used to study the level of examination malpractice in Nigeria Universities with particular reference to Olabisi Onabanjo University, Ago-Iwoye. This work becomes paramount since an investigation about the independence and dependence of the causes and effects of examination malpractice in Olabisi Onabanjo University will be analysed using descriptive analysis, Chi Square and Contingency table test. The data that will be used in this paper will be obtained from the Senate Office, Olabisi Onabanjo University Ago-Iwoye and Questionnaire will be distributed to students of all

faculties in the University in order to obtain their opinion about examination malpractice,

Materials and methods

This section is used to discuss the methodologies used in this research article.

The Chi-square (χ^2) test

Chi-square (χ^2) is a special significance test which is used to test the accordance between fact and theory (or between observed values and expected values). The statistics χ^2 is defined as

$$\chi^2 = \sum_{i=1}^n \frac{(O_i - E_i)^2}{E_i} \quad (1)$$

It is distributed as χ^2 with (k-r) degrees of freedom, where r is the number of parameters used to fit the distribution, O_i refers to the observed values of the sample, E_i refers to the expected values, that is, values expected on the basis of some hypothesis, summation (Σ) extends over all the classes in the data and n is the number in the sample.

Contingency table test

A $r \times c$ contingency table is used to show the observed frequencies for two categorical variables arranged in r rows and c columns. The sum of all observed frequencies is n, the sample size.

The variables A and B has been classified into mutually exclusive categories. The values O_{ij} in row I and column j of the Table shown the frequency of observation that is in each joint categories I and j.

The row and the column totals are the sums of the frequencies. The row and column totals add up to a grand total n which represents the sample size. The expected frequency, E_{ij} corresponding to the observed frequency in row i and column j in each cell of the contingency table is calculated as

$$E_{ij} = \frac{\text{Row total}}{\text{Sample size}} \times \frac{\text{Column total}}{\text{Sample size}} \times \text{Grand Total}$$

Table 1. Contingency table format

Variable B	Variable A				Total
	A₁	A₂	...	A_c	
B₁	O ₁₁	O ₁₂	...	O _{1c}	R₁
B₂	O ₂₁	O ₂₂	...	O _{2c}	R₂
-	-	-	...	-	-
-	-	-	...	-	-
-	-	-	...	-	-
B_x	O _{r1}	O ₂₁	...	O _{rc}	R_s
Total	C ₁	C ₂	...	C _c	n

Test procedure

The procedure for both Chi-square (χ^2) and Contingency table test are:

(i) state the null and alternative hypothesis.

H_0 : No relationship between two variables, that is, they are independent.

H_1 : A relationship exists, that is, they are dependent; (ii) select a random sample and record the observed frequencies in each cell of the contingency table and calculate the row, column, and grand totals; (iii) calculate the expected frequencies (E – values) for each cell; (iv) compute the value of test-statistic; (v) calculate the degrees of freedom (df), that is, $v = (r - 1)(c - 1)$, where r is the number of rows and c is the number of columns; (vi) using level of significance ($\alpha = 0.05$) and df, find the critical value using the Statistical table; (vii) compare the calculated and table χ^2 . Decide whether the variables are independent

or not using the decision rule: Accept H_0 if χ_{cal}^2 is less than its table value of $\chi_{0.05, (r-1)(c-1)}^2$, Otherwise reject H_0 .

Results

Secondary data on the numbers of Examination malpractice cases across 8 Faculties in Olabisi Onabanjo University (OOU) from 2013 to 2017 is given in table 2. From table 2, the lowest occurrence of Examination malpractices was in Pharmacy and the highest occurrence was in Social and Management Sciences and followed by Faculty of Science from 2013 to 2017. This may be attributed to high number of students in these faculties.

Table 2. Examination malpractice data from 2013 - 2017

NAMES OF COL- LEGES/FACULTIES		Year(s)				
S/N		2013	2014	2015	2016	2017
1	SCIENCE	21	34	48	33	13
2	LAW	3	1	9	6	0
3	AGRIC SCIENCE	20	22	25	7	7
4	BMS	3	0	1	4	2
5	ARTS	6	18	19	17	9
6	SMS	44	125	61	82	11
7	EDUCATION	19	81	64	37	12
8	PHARMACY	0	12	2	0	0

Contingency table test was performance to test the level of independence of occurrence of malpractices in 8 Faculties using the data collected from the Senate Office, OOU that is presented in Table 2. The hypothesis tested is:

H_0 : The level of Malpractice cases from 2013 to 2017 in 8 Faculties in OOU is dependent

H_1 : The level of Malpractice cases from 2013 to 2017 in 8 Faculties in OOU is independent.

From the Contingency table test results, the Expected frequencies are given in Table 3.

Table 3. Expected frequencies

FACULTIES	YEAR(S)				
	2013	2014	2015	2016	2017
SCIENCE	19.685649	49.7232	38.862187	31.5649	9.16401
LAW	2.5102506	6.34055	4.9555809	4.02506	1.16856
AGRIC SCIENCE	10.701595	27.0308	21.126424	17.1595	4.98178
BMS	1.3211845	3.33713	2.6082005	2.11845	0.61503
ARTS	9.1161731	23.0262	17.996583	14.6173	4.24374
SMS	42.67426	107.789	84.244875	68.426	19.8656
EDUCATION	28.14123	71.0809	55.55467	45.123	13.1002
PHARMACY	1.8496583	4.67198	3.6514806	2.96583	0.86105

The Chi-square (χ^2) calculated is

$$\chi_{cal}^2 = \sum_{i=1}^{40} \frac{(O_i - E_i)^2}{E_i} = 95.62$$

Degree of freedom (df) = (5-1) (8-1) = 28. At 0.05 level of significance

$$\chi_{tab}^2 \text{ is } \chi_{0.05,28}^2 = 16.93$$

Decision and conclusion

Since $\chi_{cal}^2 > \chi_{tab}^2$, we reject H_0 and concluded that the level of Malpractice cases from 2013 to 2017 in 8 Faculties in OOU is independent. This implied that the reasons and level of examination malpractices across various Faculties in OOU vary from one another.

The primary data collected on methods, causes, effects and solutions about Examination malpractices using Questionnaire leads to the following results given by 120 respondents. The first research question is on the methods of examination malpractice. Table 4 was used to show that out of the ten methods

of examination malpractice, nine have higher percentages for “no” ranging between 54.2% and 86.7%. Only the use of Micro-chip has higher percentage for yes at 57.5%. In essence, majority of students who involved themselves in examination malpractices use Micro-chip.

Table 4. Methods of examination malpractice

S/N	ITEMS	YES	%	NO	%
1	Use of Micro-chip	69	57.5	51	42.5
2	Sorting	29	24.2	91	75.8
3	Bringing foreign materials into the examination	44	36.7	76	63.3
4	Collusion	16	13.3	104	86.7
5	Impersonation	31	25.8	89	74.1
6	Fore-knowledge of examination questions	21	17.5	99	82.5
7	Leakage of question paper traceable to the printing press or other persons associated with the custody of the paper.	20	16.7	100	83.3
8	Mass cheating	26	21.7	94	78.3
9	Insult/Assault on supervisors/invigilators/inspectors by candidates	28	23.3	92	76.7
10	Handheld smart devices such as modern cell phones.	55	45.8	65	54.2

Table 5. Causes of examination malpractice

S/N	ITEMS	YES	%	NO	%
1	Emphasis on paper qualification or certificate	43	35.8	77	64.2
2	Inadequate teaching and learning facilities such as classrooms, libraries, laboratories and even teachers compared to the population of students.	56	46.7	64	53.3
3	Students’ vices such as cultism, drug abuse, sexual promiscuity and truancy	51	42.5	69	57.5
4	Moral upbringing of some of the youths by parents.	45	37.5	75	62.5
5	Lack of confidence as a result of inadequate preparation	62	51.7	58	48.3

6	Quick emphasis on success and wealth without a corresponding emphasis on legitimate means and avenues to be used positively in achieving such success.	48	40.0	72	60.0
7	Admission of unqualified candidates	57	47.5	63	52.5
8	Low moral standard in schools	55	45.8	65	54.1
9	Peer/societal influence	73	60.8	47	39.2

Table 5 was used to show that only two out of nine items on causes of examination malpractice have higher percentages for yes that is 51.7% and 60.8%. This implied that majority of the respondents agreed that lack of confidence as a result of inadequate preparation and peer/societal influence are the major causes of examination. In Table 6, the responses of the respondents on effects of examination malpractice indicated that all of the items have higher percentages for yes ranging between 68.3% and 82.5%. This implied that all the stated items were agreed to be the possible effects of examination malpractice. Table 7 revealed that the three items on the perceived solutions to examination malpractice have higher percentages for yes ranging between 66.7% and 88.3%, indicating that most of the students agreed that the stated items are the perceived solution to examination malpractice.

Table 6. Effects of examination malpractice

SN	ITEMS	YES	%	NO	%
1	Dismissal, termination, loss of position and self-confidence	89	74.2	31	25.8
2	Examination malpractices lead to irreversible loss of credibility	82	68.3	38	31.7
3	As long as Examination malpractices are prevailing, we will end up producing Doctors who will forget scissors and towel in the stomach after surgical operation.	99	82.5	21	17.5
4	Production and indiscriminate sales of fake drugs by pharmacists and massive fraud in commercial banks are linked to examination malpractices.	87	72.5	33	27.5
5	Drop out of students	86	71.7	34	28.3

Table 7. Perceived solutions to examination malpractice

SN	ITEMS	YES	%	NO	%
1	To maintain standards and avoid collaboration, senior officials of Ministries of Education on inspection centers should be involved	106	88.3	14	11.7
2	Sanctioning of erring students, lecturers, HODs, supervisors and other examination officers should be maintained	80	66.7	40	33.3
3	The school examinations are monitored strictly to ensure compliances with guidelines by students.	95	79.2	25	20.8

Discussion and conclusion

This research article was used to investigate the cause, methods, effect, solution to challenges of examination malpractice in Olabisi Onabanjo University, Ago Iwoye, Ogun State. The methods used to analyse the secondary data from the Senate Office OOU and primary data obtained using Questionnaire was Descriptive Statistics and Contingency table test. The results of the Contingency table test indicated that cases of examination malpractice are independent and vary from one Faculty to the other.

The highest occurrence of examination malpractice was indicated to be occurring in Social and Management Sciences. The responses of the 120 respondents based on all the research questions indicated that Micro-chip is the most often used of the method, lack of confidence as a result of inadequate preparation and peer/societal influence are the major causes of getting involved in examination malpractice.

The respondents agreed that the effects of examination malpractice well the students are caught were Dismissal, Termination of Studentship and other form of disciplinary actions while the respondents proffered solutions are maintaining high standard of education, sanctioning of erring students and staff, and strictly compliance to University rules and regulations.

Concussively, the findings indicated that Government must properly fund the Universities, the University Staff must be honest and diligent, and students should be properly monitored, oriented and be force to obey the University rules and regulation.

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