

**OVERHAULING ASSESSMENT INSTRUMENTS FOR GRADUATE ADMISSION INTO NIGERIAN  
UNIVERSITIES: a predictive study** :

Being A Paper Presented At The 45<sup>th</sup> Annual Conference Of International Association For  
Educational Assessment held between 22-27 September 2019 At Baku In Azerbaijan

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**Abstracts**

Decisions in life are always premised on available information undermining the authenticity of such information, assessment happens to be the main fulcrum on which most educational decisions are based, in Nigeria decision on who secured admission to tertiary institution is hinged mainly on the outcome of candidates performance at University Matriculation Tertiary Examination conducted by Joint Admission and Matriculation Board (JAMB) while individual Tertiary Institution conducts post University Matriculation Tertiary Examination to determine the candidates' eligibility for a space in a Nigerian university. The credibility of these two entrance assessment and the performance of students in tertiary institutions are subject of contention, it is in this regard, that selected first year students performances in Micheal Okpara University of Agriculture Umudike (MOUAI) Abia state of Nigeria were correlated with the performances at the matriculation examination conducted by Joint Admission and Matriculation Board. Students were selected across the schools in the university, Pearson Product Correlation Coefficient and carried out show a moderate positive correlation between JAMB scores and university first year scores, while R square is 47 percent on regression analysis. The result shows that the present process of admission in Nigeria needs to be overhauled, it is therefore suggested that while post UTME should be phased out, JAMB subjects combination should be reviewed, the subject content should be in tandem with the proposed course of study, the multiple choices options should be harmonised among the public examinations in Nigeria, unified entrance examination should be dropped for separate exams for university and polytechnic. This paper looks at the university admission process, extraneous factors affecting students performance, challenges of subject combination, correlate JAMB score with first year grade in the university, concept of decision making, the challenges confronting assessment, and advanced solutions to assessment process into Nigeria universities.

**Keywords:** admission, assessment, decision, grade and, matriculation,

**Theme:** Assessment Decision in focus

## **INTRODUCTION/BACKGROUND**

The concept of decision making for personal and an organisation purpose is based on the quality and quantity of information at the decision maker's disposal, selection of students into Nigerian university rest on grades at ordinary level of education ,matriculation entrance examination performance, post -UTME and of recent unpopular post Unified Matriculation Tertiary Examination(UTME) performance of candidates . Prior to the establishment of JAMB for the admission of students into Universities, the universities were conducting individual admission exercises (Omodara, 2010) as a results of challenges that marred the relevance of this regime a national outlook was conceptualised as a result, in 1974, the committee of Vice-Chancellors came up with the idea of central admission to eliminate various problems created by individual admission exercises (Ifedili & Ifedili, 2010) and in 1978 JAM was established . The Board conducted the first matriculation examination for entry into all degree- awarding institutions in Nigeria in 1979; Polytechnics and Colleges of Education in 1991, Monotechnics in 1998 and Innovative Enterprises Institutes in 2009, (JAMB, 2011), Post-UME was introduced by some Nigerian universities in 2005 barely few months after the released of JAMB result ,this is strange to the act establishing JAMB ,progenitors of this maverick approach were the universities community who have a vested interest in conducting a less-fancy (quality) entrance examination into Nigerian universities ,this stand was corroborated by Ajaja, (2010) who examined the influence of these two admission scores (UME and Post-UME) on the students' achievement and found no significant effect on students' final CGPA. He lamented that the irony of it all was that there was a decline in the performance of students admitted with Post-UME screening than UME. Onyechere (2005) also asserted that Post-UME screening is illegal. According to him, examination malpractice in Nigeria is a universal societal problem and not the problem with JAMB.

There are also fears in many quarters that the quality of students admitted by JAMB deteriorates yearly despite their high scores in UTME. Several professionals and researchers are of the opinion that the glorious days of high academic performance and enviable achievements among Nigerian undergraduates have reached a varnishing point (Obioma & Salau, 2007) JAMB's enrolment figures into the universities have risen from 52,755 in 1978 when JAMB was established to 167,617 in 1987 and 236,261 in 1996 (Adesina, 2005). The Board had over one million, five hundred and three thousand, nine hundred and thirty one (1,503,931) candidates in the 2012 Unified Tertiary Institutions Matriculation Examination (UTME) (Nairaland, 2011).and over 1.6 million in 2019.

Researchers had carried out studies on the predictive strength of JAMB on final grade of students in the university with divergent views , Omodara (2003) and Obioma and Salau (2007) suggested low predictive power of UME. Negative and inverse correlation of UME scores with some external criteria have also been investigated and reported by Adeyemo (2008). Furthermore, JAMB (2007) reported a very low value of relationship between UME Scores and Final Grade Point Average (CGPA) but attributed this to the differences in the skills

and competencies emphasized by the UME and that of the university education and the incidence of extraneous variables among others. Prediction consists essentially of estimating the values of some performance of variables over time, on the basis of certain present attributes, which may or may not contain random errors. It is the ability to estimate future achievement based on the past or present achievement that increases the predictor strength, in adopting such estimate mathematical operations are always performed which are constrained by practical considerations, (Galit, 2012). Thus, in most cases the operation furnishing the estimate must be linear and fixed in addition to the obvious requirement of being physically realizable. The material end product of such a prediction is what is commonly known as a predictor or an estimator.

### **DEFINITION OF TERMS**

JAMB: Joint Admission and Matriculation Board

UME: University Matriculation Examination

UTME: Unified Tertiary Matriculation Examination

CGPA : Cumulative Grade Point Average

### **Regimes of admission process Into Nigeria Tertiary Institutions are as follow:**

- The candidate must have at least five ordinary level credits in the subjects related to his course of study
- The candidate must sit for JAMB and score within or above the national cutoff mark
- The candidates' scores must meet the institution cut-off to qualify for post JAMB test conducted by individual institution
- That the candidates must pass the post- JAMB before admission is guaranteed.
- After the shortlistment, JAMB issues admission letter to each successful candidate.
- the concept of catchment area and discretion play a minor role
- interim Joint Admission and Matriculation,
- remedial/pre-degree
- direct entry for holder of National Diploma/NCE

### **ADMISSION PROCESS: issues involved**

The clamour for post UME by Heads of Nigeria tertiary institutions became intense immediately after the introduction of Unified faction of UME popularly called Unified Tertiary Matriculation Examination (UTME) which sounds aliens to the act setting up JAMB, JAMB in her wisdom opined that it will reduce the financial burden on the parents who will be made to pay double the amount for the same service, provides equal platform for all candidates seeking admission into

tertiary institutions whether into University or Polytechnic/National College of Education, , meanwhile since the introduction of post UTME the performance of university students has not improve significantly, not to talk of the risk and cost of travelling for post UTME .The most worrisome aspect is the psychometric quality of post UTME items which in most cases fall below UTME standard. UTME subjects peering for a course of study where candidates who wants to study accountancy, economics in most institutions are expected to write either write Christian Religion knowledge or Islamic Religion Studies ,the question is, is there any relationship?, geography as a course attract maths in UTME for some universities but the question is at what level of geography in the university do we expect students to make use of advanced maths?

### **EXTRANEOUS FACTORS THAT AFFECT UNDERGRADUATE STUDENTS**

A new students in the university is influenced by the followings

- ❖ A new set of negative peer group exact a lot of influence on the seriousness of student in higher institution which may ultimately affect his academic performance
- ❖ Change in pattern of teaching at the tertiary institution
- ❖ Excess freedom from parents, teachers and school authority can derail student from being serious
- ❖ Previous schooling, parents' education and family incomes, self motivation, age of student, learning preferences, class attendance and entry qualifications have also been found to exert a great influence in student academic performance in the university

### **Statement of the problem**

The ability to use a variable to project and predict other phenomena establishes the relevance of such variable in decision making ,the predictive strength of output of JAMB in Nigeria has attracted a lot of studies: Omodara (2003) and Obioma and Salau (2007) suggested low predictive power of UME. Negative and inverse correlation of UME scores with some external criteria have also been investigated and reported by Adeyemo (2008). Furthermore, JAMB (2007) reported a very low value of relationship between UME Scores and Final Grade Point Average (FGPA) but attributed this to the differences in the skills and competencies emphasized by the UME and that of the university education and the incidence of extraneous variables among others. most of these studies focused on the final grade of students in the university while undermining the extraneous factors that must have crept in between the first and final year of the students, moreso most of these students were still under their parental supervision while writing JAMB unlike the period when they will be independent in the university. This study is therefore occupying the vacuum by limiting the comparison of JAMB scores to the first year in the University.

The objectives of this study are to determine:

- ✓ The relationship between JAMB scores and first year grade(scores) of students in Nigerian University
- ✓ The predictive ability of JAMB on post UTME scores
- ✓ Relationship between O/Level grade and first year grade in Nigerian University.
- ✓ Relationship between post- UTME scores and first year grade of students at the university
- ✓ Relationship between O /Level scores and JAMB scores.
- ✓ Relationship between O /Level and post -UTME

### **Hypotheses**

The following null hypotheses were formulated and tested at  $P < 0.05$  level of significance (95% confidence interval).

They were:

1. There is no significant relationship between the JAMB scores and post JAMB scores
2. There is no significant relationship between JAMB scores and students' 100 level (first year) CGP scores in the University.
3. There is no significant relationship between O /Level scores and JAMB scores.
4. There is no significant relationship between O /Level scores and students CGP 100 level scores.
5. There is no significant relationship between UTME scores and CGP.
6. There is no relationship between O /level and post UTME .

### **Interpretation of possible results of correlation**

1. 00 = zero correlation
2. - 01 to -0.3 = low negative correlation
3. - .4 to - .6 = moderate negative correlation
4. -. 7 to - .9 = strong negative correlation
5. - 1 = perfect negative correlation
6. . 01 to .3 = low positive correlation

7. .4 to .6 = moderate positive Correlation
8. .7 to .9 = strong Positive Correlation
9. 1 = Perfect Positive Correlation

The seven null hypotheses that guided the study were tested at 0 .05 level of significance.

### **Significance of the study**

This study will assist the Government of Federal Republic of Nigeria and any other sovereign states to make an informed decision back up by relevant legislation on the conduct and administration of selection assessment like JAMB with a view to improve its credibility and predictive value. it will also assist researchers in education sector who are interested in determining the optimum mode and combination of psychometric characteristics that will best discriminate among students who will benefit maximally in the university education

### **Scope of the study**

The scope of this study was restricted to four departments of Micheal Okpara University of Agriculture Umundike (MOUUAU) in Abia state of Nigeria ,the departments include library and information ,electrical and electronics ,mechanical engineering and computer engineering department while the CGPA considered were that of 2015/16 and 2016/17 academic sessions ,JAMB and post UTME scores were that 2015/16 session ,these sessions were selected because of the availability of needed variables such as the senate approved results of first sessions ,JAMB and post UTME scores in the institutions of choice. a total of 168 students scores were made available and used.

### **METHODOLOGY: Source of Data, Data Collection, Analysis and Findings**

**Source of Data:** Data for this study were sourced primarily with the use of checklist which were sent to the selected institution

**Method of data collection:** data were collected with the use of a well structured checklist sent to the departments through the Registrar of the selected institutions (university)

### **Procedure of data collection**

A letter requesting for data was sent to the Registrars of the selected Institutions and an introductory letter to the selected departments from the Registrar offices of MOUUAU , was issued to enable the author access students admission details ,2016/17 session was selected because of the availability of needed information of the present 300 and 400 level students .faculty of education and faculty of engineering were selected from where computer engineering,

mechanical, electrical electronics department ,information and library science were selected .it is a kind of multistage sampling technique ,a total of one hundred and sixty eight students results were made available .

## ANALYSIS OF DATA

### Data manipulation

All the four variables used were collapsed to maximum of five (5) i.e.

- JAMB score =  $*/400 *5$
- O/Level 5 credits =1. ,6 credits =2 points ,7 credits=3 points, 8 credits=4 points, 9 credits=5 points
- POST JAMB  $-*/100*5$

### Results: Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Jamb	2.29	.515	168
credit	4.27	.838	168
Pjamb	2.55	.724	168
CGP	3.20	.970	168

### RESULTS OF PEARSON PRODUCT MOMENT CORRELATIONS

	O/LEVEL	JAMB	POST-JAMB	100LEVEL
O/L	1.000	.594	.442	.167
JAMB	.594	1000	.557	.327
PJAMB	.442	.557	1000	.404
100 LEVEL	.167	.327	.404	1000
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### Summary<sup>b</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.689 <sup>a</sup>	.475	.465	.377	1.818

a. Predictors: (Constant), CGP, credit, pjamb

b. Dependent Variable: jamb

#### ANOVA<sup>a</sup>

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	21.029	3	7.010	49.430	.000 <sup>b</sup>
	Residual	23.257	164	.142		
	Total	44.286	167			

a. Dependent Variable: jamb

b. Predictors: (Constant), CGP, credit, pjamb

#### INTERPRETATION OF RESULTS

Correlation between JAMB and CGP is .327 = low positive correlation

Correlation between JAMB and post JAMB is .557 = moderate positive Correlation

Correlation between JAMB and CREDIT is .594 = moderate positive Correlation

Correlation between CREDIT and post JAMB is .442 = moderate positive Correlation

Correlation between CREDIT and CGP is .167 = low positive correlation

Correlation between post JAMB and CGP is .404 = moderate positive Correlation

#### FINDINGS



- That the admission assessment conducted by the university after JAMB does not significantly influence the performance of students in their first year in the University.
- That JAMB scores have low positive correlation with students' cumulative grade point in the University
- That there a positive correlation between JAMB and credit at ordinary level
- That there is significant relation between JAMB and post JAMB
- That JAMB scores have moderate positive correlation with ordinary level scores which shows the potency of reliability and validity of test items of both public examinations
- It was also observed that the some subjects required in JAMB do not have any bearing with course of study ie Christian Religion studies /Islamic Religion Studies for Accounting or Economics
- That during the change of course after UTME, compliance to specification is always very low there by forcing students to read course outside their course of choice.
- JAMB multiple choice stems have four (4) options while other public examinations have between four and five
- That time allowed in JAMB is about 54 seconds while other public examination is 1 minute for a question
- That there are candidates who get to the university without an input from JAMB
- that the UTME makes it difficult for candidates wishing to go university alone to make choice

That some candidates have their course changed without their consent or due to pressure of getting admission they are compelled to undergo such course against their initial plan.

#### Recommendations:

- ✓ JAMB should review subjects' combination for course of study to reflect the core content of course
- ✓ JAMB should include more subjects especially trade/entrepreneurial subjects.
- ✓ Post -UTME has outlived its usefulness should therefore be faced out or scrapped.
- ✓ Multiple choice computer based test should be adopted by all tertiary institution especially at the 100 level.

- ✓ Re-instating the higher secondary education or advanced secondary school into the admission process will help in raising the bar of academics standard in Nigeria University
- ✓ National admission into Nigeria cut off should be returned back to 200 scores out of 400.
- ✓ Minimum age limit for some jobs in Nigeria should be abrogated.
- ✓ Unified Tertiary Matriculation Examination (UTME) should be scrapped to allow independent
- ✓ Entrepreneurial subject relevant to a course should be made compulsory requirement to qualify a candidate for JAMB ie mining for geology, animal husbandry for zoology, electrical installation for electrical engineering, Auto Mech for Mechanical Engineering, Catering and Craft for Food and Nutrition
- ✓ There should be harmonization of number of stems in an items JAMB has four (4) option while public examinations in Nigeria have between four (4) and five(5).
- ✓ The content of the subjects to be examined by JAMB should be in close consonant with the content of the course to be offered at tertiary institution

**CONCLUSION :** JAMB has played a tremendous roles in ensuring credible placement assessment is conducted in Nigeria ,since inception the growth of the examination body has been phenomenon nevertheless there areas where adjustment are needed for an enhanced performance

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