PREDICTIVE VALIDITY OF JAMB UME AND POST UME SCORES OF STUDENTS FINAL CUMULATIVE GRADE POINT AVERAGE IN SELECTED UNIVERSITIES IN SOUTH EASTERN STATES, NIGERIA

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Introduction

The quality of any nation's manpower development is directly related to the quality of its educational system. Thus, the universities are saddled with the responsibility of producing quality manpower that will add value to the economy. Since it is the responsibility of the universities to produce adequate manpower for rapid socioeconomic development, it therefore requires that the universities admits student on merit so as to produce quality graduates. To ensure that productive and functional graduates are produced, it requires that the evaluation process adopted should be credible to ensure the best candidates are offered admissions in the universities. Evaluation in education, especially those of public examination such as JAMB are meant for selection and placement of students in the universities. The essence of this JAMB examination is to identify those who have successfully qualified for admissions into the universities.

Admissions into Nigerian universities like other universities of the world is through the JAMB UME and Post UME and other basic entry requirements namely the West African School Certificate (WASC) or West African Senior Secondary School Certificate (WASSCE), General Certificate of Education (GCE), National Examination Certificate (NECO). These examinations according to Iwuji (1990) are scholastic aptitude tests which are meant to predict or forecast performance in future.

Tracing the origin of selection process, Sawyer (1963) pointed out that it dates back to 1948 when University College, Ibadan introduced selection examination in order to admit its students. Other universities and institutions of higher learning followed suit. The essence of these selection processes is to admit students who are able to scale through university examinations. This implies that there should be a high correlation between selection examination scores and performance of students during their university education. In other words, selection examination scores should be able to predict performance in the universities.

The basic entry requirements of Nigerian students gaining admissions in Nigerian Universities are the West African Senior School Certificate Examination(WASSCE), National Examination Senior School Certificate Examination(NECOSSCE), and Joint Admissions and Matriculation Board(JAMB) UME(Akanwa ,2008). The students seeking admission into Universities must possess good grades and meet the required JAMB UME cut off marks in other to gain admissions into any University of their choice. Students who successfully meet up these requirement no doubt will successfully do well academically in any of the institutions they were admitted.

Meanwhile before the advent of the Joint Admission and Matriculation Board (JAMB), every university conducted its own placement and selection examinations and admitted its candidates based on their performance in the placement examination and other criteria set by the universities. This led to multiple admissions and waste of resources due to the duplication of efforts and manpower. As a result of these multiple examinations, standards could not be compared. There was no basis for such comparison since individual universities set and conducted their own examinations (Omirin, 2005).

In the bid to address the problems emanating from multiple university entry examinations, the Federal Government of Nigeria established JAMB in 1977. JAMB was established by Act number 2 of 1978, of the Federal Military Government on 13th February 1978. By August 1988, the Federal Executive Council amended decree No 2 of 1978. The amendments have since been codified into decree No 33 of 1989 which took effect from 7th December 1989 (JAMB, 2008). Section 5 of the 1978 Act describes the functions of the board while Section5 (1) (a) and section 5 (1) (b) empowers JAMB to conduct matriculation examinations into all Nigerian Universities whether Federal, State or private. The role of JAMB in quality assurance includes:-

- Ensuring high quality matriculation examination so that only those that are qualified and are adequately prepared to benefit, do gain entrance into the institution
- Ensuring high quality administration of examination to minimize the exploits of cheats and ensuring good quality of new entrants to the universities (Uvah, 2005).

The establishment of JAMB was received with mixed feelings by certain sections of the country (Abdullahi, 1983). Some tagged it as implementing quota system in Nigerian universities; others saw it as an agency which would ensure that qualified candidates are admitted (Olutola, 1981)

Thus, JAMB was established to control the waste of resources and manpower, as well as solve the problem of multiple admissions. JAMB was to enforce quota admission, check educational imbalance and rationalize the admission process (Maduabum, 2004). It was also introduced to encourage national integration as well as ensure quality assurance. Since JAMB has become selection process of students based on its objective and credibility, it is therefore expected to show predictive validity on the student performance in the universities.

However, the credibility of JAMB in predicting students performance in universities has been questioned as Obioma and Salau (2007) found out that public examinations like JAMB in Nigeria have credibility problems. It was in the light of the escalating malpractices characterizing public examinations that the then Minister of Education, Mrs. Chinwe Obaji in 2005, during her meeting with the committee on admissions into degree awarding institutions, stated that all candidates seeking admission into universities must sit for the university matriculation examination conducted by JAMB. In addition, universities are to further screen their candidates (Guardian, 2005). This gave rise to the post university matriculation examinations (POST-UME).

The POST-UME is a further screening of the candidates by the individual universities after meeting the JAMB cut-off point.. Nwachukwu (2006) identified no significant relationship between the JAMB UME and POST-UME scores. He opined that there was no form of examination malpractice in the POST-UME screening tests in the year 2005/2006 admissions.

Speaking on JAMB UME and against POST-UME screening Examination, Oloho (2006) said it is unconstitutional and it will take the universities back to status quo encouraging again the reason for which JAMB was introduced like waste of resources, multiple and unharmonized admissions. Akoni (2006) believes that the POST-UME is also characterized by examination malpractice and other forms of malpractice. Idika, Ayang and Joshua (2007), while lending support to the POST UME screening added that it must be done with caution to avoid making it to be another JAMB UME. From the foregoing arguments for and against JAMB UME and POST-UME screening examinations, it is desirable that meaningful decision be made based on empirical investigation. This study therefore provides empirical evidence of the predictive validity of the JAMB UME and POST-UME screening examination scores in Nigerian universities in the South-East.

Predictive validity is the degree to which one variable (predictor) is able to forecast future performance of another variable (criterion). According to Nkemakolam (2009), validity is referred to as the extent to which an

instrument or a test measures what it is intended to measure or what it purports to measure, while Olatunji, Akanwa and Nwahunaya (2004) defined predictive validity as the extent to which the result of a test is able to forecast performance in other related activities occurring later on. It is concerned with prediction of future performance. It is on this note that the present study was concerned with the prediction of the university's students' performance using their JAMB UTME and Post UME.

At the end of secondary education, candidates who wish to be admitted into the universities are required to have passed at credit level in the West African School Certificate (WASC) or National Examination Council (NECO) certificate. In addition to this, they are required to sit for JAMB UME and to pass at acceptable levels which qualifies them for the POST UME screening. In other words students who met these requirements are expected to perform well in the universities there by making our education system very productive and functional. By the year 2005, many universities felt the need to screen candidates further after the JAMB UME for students to be admitted into these universities. The reason is that it is believed that the JAMB UME has not been able to predict performance as a result of examination malpractices. Public examinations in Nigeria are said to have lost credibility as they are plagued by examination malpractices (Obioma & Salau, 2007). They recommended that the candidates have to sit and pass POST-UME screening examinations at acceptable levels. Whether the recently introduced POST-UME will be more predictive of undergraduate performance than the JAMB UME is ascertainable by empirical investigation.

Today in Nigeria our graduates have been tagged as half-baked graduates, as the performances of students keeps declining in the Tertiary Institutions which has made many of the graduates to be become unemployable thereby posing a threat to the country manpower. These is consequent upon the fact that majority of the students had the basic entry requirement which includes high scores in JAMB UME and POST UME that qualified them for admissions into various programmes in the tertiary. It is in view of this, that the present study asks; Do the students JAMB scores and JAMB POST UTME predict their university performance. It is against this background that the study sought to find out the predictive validity of JAMB University Matriculation Examination Scores and JAMB POST UTME scores of students on their final performances in Nigerian universities.

The underlisted research questions guided the study.

1. How do students' scores in JAMB UME correlate with their scores in Final CGPA scores for various universities?

2. How do students' scores in JAMB POST UME correlate with their scores in Final CGPA scores for various universities?

The following null hypotheses were tested at 0.05 level of significance

1. The JAMB UME scores do not significantly predict the Final CGPA
2. The JAMB POST UTME scores do not significantly predict the Final CGPA

Method

This study adopted a correlational survey involving a cohort of students admitted by selection examinations of JAMB UME in three universities in South East Nigeria in 2005 followed up in their performance to the 300 level and 400 levels. The study was carried out in the government owned conventional universities in the South Eastern states of Nigeria; notably, Imo, Abia, Enugu, Anambra and Ebonyi states. The population of this study is made of 19,332 students admitted for the 2005/2006 academic session in the conventional government owned universities in the south eastern states of Nigeria (Admissions office of the universities under study) .They include Imo state university (IMSU) and Abia state university (ABSU) for Imo and Abia states respectively. Ebonyi state university (EBSU), Nnamdi Azikiwe university (NAU), and University of Nigeria, Nsukka (UNN) are for Ebonyi state, Anambra state and Enugu state respectively. The choice of conventional universities was made to have the same disciplines across the universities to make the sample truly comparable. A total of 3280 students who were admitted into the conventional Government owned universities in the 2005/2006 session were used for the initial study by Akanwa (2008). Due to alteration, 1263 got to the final year which becomes the sample size of the Cohort. This is 16.97% of the population of 19,332 and 37.6% of the actual population of 12,332. They were selected by a combination of simple random sampling, stratified random sampling and purposive sampling techniques. Purposive sampling was used to select the conventional government owned universities used for the study. This is because these are the ones that have similar courses of study and faculties which can be equated. Stratified sampling was used to make sure that all the states of the South Eastern Nigeria were represented. That is to say, the sampling of government owned universities was done state by state. However, two of the five universities namely, NAU and EBSU were not used for the study. NAU refused to release their data while EBSU at the time of the study did not subject its candidates for POST-UME making them unsuitable for this study. The other three universities IMSU, ABSU and UNN were used for the study.

The faculties in the three universities were written out and compared. The ones that are not common to all were ignored. The common ones were written out on a piece of paper. These were twelve (12) and simple random sampling of balloting with replacement was used to pick five (5). The selected faculties are Education, Law, Business, Biological and physical sciences. A table of random numbers was used to select 35% of students within the faculties. The results used were those of all persons who had complete results as necessitated by cohort studies. Those with missing results were not used. (See appendix 4 for number sampled from each university.) However, due to attention the numbers of students sampled reduce. This is a cohort study; some of the students had dropped due to poor performance or even, some other reasons like non payment of school fees, death, incomplete results and others.

The instrument for data collection is a Proforma showing the JAMB UME score, score, 300 level CGPA, 400 level and 500 level CGPAs. The data collected for all variables are interval level data. The data were collected from Examinations and Records units of the universities studied. In cases where results had not been sent to the examinations and records offices of the universities at the time of data collection, they were collected from the departments. The JAMB UME scores were obtained from the admissions offices of the various universities after obtaining permission from the registrars. The maximum score on the JAMB UME is four hundred (400) for the four subjects sat for. The CGPA Scores were copied from the computed sheets by the lecturers in charge at ABSU and IMSU. However, the CGPA is calculated by first calculating the grade point average (GPA). GPA for first and second semesters divided by 2 will give the CGPA. The GPA is obtained by multiplying the grade with the credit units, adding and dividing by the total units. A =5, B= 4, C=3, D= 2, E=1 and F=0 points respectively. Data were analysed using the statistical package for social sciences (SPSS). Research Question 1 and 2 were answered using the Pearson Product Moment Correlation Coefficient (PPMCC). Hypothesis 1and 2 were in addition tested using Simple Linear Regression analysis and F-test was used to test for its significance.

Results

Table 1: Pearson's Product Moment Correlation Coefficient of the students JAMB UME Scores and their Final Year CGPA scores for various universities

	Variables	JAMB UME	Final Year	CGPA
1.	JAMB UME		1.000	0.524
	Significance			0.000
	N		1263	1263
2.	Final Year CGPA		0.524	1.000
	Significance		0.000	
	N		1263	1263

The data on Table 1 revealed that there was a moderate positive relationship of r= 0.524 which was significant (P< 0.05) between the students' Scores in JAMB UME and their Final Year level CGPA.

To determine the relative contribution of student JAMB UME Scores and their Scores in Final Year CGPA, the predictive index of the JAMB UME Scores is presented as shown on **the beta** column of the Table 2

Table 2 The relative contribution of the students' JAMB UME Scores and their Final Year CGPA in the Universities sampled.

	B	**Standard Error**	**Beta**	**t.cal**	**Significance**
Constant	48.103	2.006		17.620	.000
Final Year CGPA	3.167	0.401	0.524	13.735	.000

(a) Dependent variable: Final Year CGPA

The data on table 2 showed that Beta value of 0.524at P< 0.05, P=0.000 indicates that JAMB UME had 52.4% contribution in predicting Final Year CGPA.

Research Question 2: How do students' scores in JAMB POST UME correlate with their scores in Final Year CGPA scores for various universities?

Table 3: The Pearson's Product Moment Correlation Coefficient between the JAMB UME Scores and Final CGPA in the Universities sampled.

Variable	JAMB UME	Final Year	CGPA
JAMB UME		1.000	0.761
Sig 2 tailed			0.000
N		1263	1263
Final Year		0.761	1.000
Sig 2 tailed		0.000	
N		1263	1263

The data on table 3 revealed that there was a high positive relationship of r=0.761 which was Significant (P<0.05) between the students' scores in JAMB UME and their Final Year CGPA.

To determine the relative contribution of the student JAMB UME Scores on their scores in Final YEAR CGPA, the predictive index of the JAMB UME Scores was presented as shown on the beta column of Table 4

Table 4: The relative contribution of the students' JAMB UME Scores on their Final Year CGPA scores in the Universities sampled.

	B	Standard Error	Beta	t	Significance
Constant	5.712	0.836		3.643	0.000
Final Year CGPA	0.734	0.021	0.761	55.232	0.613

(a) Dependent variable: Final Year CGPA

The data on table 4 showed that Beta value of 0.761 at P< 0.05, P=0.000 indicates that JAMB UME had 76.1% contribution in predicting Final Year CGPA

Hypothesis 1: The students' JAMB UME Scores do not significantly predict their Final Year CGPA in the Universities sampled.

Table 5: Analysis of Variance(ANOVA) of the Simple Linear Regression analyses showing the significant prediction of Final Year CGPA by their JAMB UME.

Model	Sum of squares	Df	Mean square	F	Sig.
Regression	53611.461	1	53611.461	407.568	0.000
Residual	165875.817	1261	131.54		
Total	219487.287	1262			

a) Prediction: (Constant), JAMB UME
b) Dependent Variable: Final Year CGPA

Data on Table 5 show an F- value of 407.568 and p-value of 0.000 since the p-value of 0.000 is less than 0.05, we shall reject the null hypothesis which states that the students' JAMB UME Scores do not significantly predict their Final Year CGPA in the Universities sampled Hence this implies that the students' JAMB UME Scores do significantly predict their Final Year CGPA in the Universities sampled.

Hypothesis 2: The students' JAMB POSTUME Scores do not significantly predict their Final Year CGPA in the Universities sampled.

Table 6: Analysis of Variance (ANOVA) of the Simple Linear Regression analyses showing the significant prediction of 300Level scores by their JAMB POSTUME.

Model	Sum of squares	Df	Mean square	F	Sig.
Regression	122734.262	1	122734.262	2398.559	0.000
Residual	64537.131	1261	51.17		
Total	187271.393	1262			

a) Prediction: (Constant), JAMB POSTUME
b) Dependent Variable: Final Year CGPA

Data on Table 6 show an F- value of 2398.559 and p-value of 0.000 since the p-value of 0.000 is less than 0.05, we shall reject the null hypothesis which states that the students' JAMB POSTUME Scores do not significantly predict their Final Year CGPA in the Universities sampled Hence this implies that the

students' JAMB POSTUME Scores do significantly predict their Final Year CGPA in the Universities sampled.

Discussion

The correlation Between Students Performance in JAMB UME and Final Year CGPA

The analyzed data of research question one showed that there exist a moderate positive Correlationship which was significant between the JAMB UME and Final Year CGPA. This finding is in agreement with studies of Akanwa (2008) and Igwe & Adikwu (2012) whose separate findings showed that there existed a significant correlation between the UME and the 400 level. The corresponding Hypothesis one showed that JAMB UME significantly predicts the Final Year CGPA. This finding agrees with the findings of Dibu & Thomas (2009) whose finding revealed that the UTME predicted students' performances in the 400 level CGPA. This is because the 300 Level grades and 400level grades respectively provide only a long term indicator of university performance.

The Correlation of the students scores in the POST UME and their scores Final Year CGPA respectively.

The analyzed data on research question two shows that there was a high positive correlationship which was significant between the Post UME scores and their Final Year CGPA. These findings in disagreement to the findings of Onuoha (2006) who revealed candidates admitted in the Universities are not those with high JAMB UME scores but those with high scores of Post UME. This finding also disagree with the findings of Akanwa (2008) whose findings show that there exist a positive and significant correlationship between the Post UME and Final Year CGPA. However, the positive correlationship which was significant that existed between the Post UME and Final Year CGPA may be attributed to the fact that the schools admitted students with high scores in JAMB UME and POST UTME. This finding agrees with the findings of Dibu & Thomas (2007) whose findings revealed that the POSTUME predicted students' performances in the 400 level CGPA. This is because the 400 level CGPA or Final Year provides only a long term indicator of university performance.

Conclusion

Based on the results of the analyzed data, the following conclusions were made

1. There was moderate positive relationship which was significant between the student's scores in JAMB UME and their Final level CGPA
2. There was a high positive relationship which was significant between the student's scores in Post UME and their Final level CGPA
3. The students' scores in JAMB UME significantly predicted their Final level CGPA CGPA
4. The students' scores in JAMB POSTUME significantly predicted their Final level CGPA

Based on this, the Post UME becomes a better predictor of the students CGPA 300 level and 400 level than the JAMB UME.

Recommendations

Based on the findings of the study the researcher makes the following recommendations for improved operation of the Nigerian's Educational System.

1. JAMB UME should be retained as one of the selection modes but the Post UME Screening should be continued as a means of further screening to ensure that better qualified candidates are admitted
2. JAMB should ensure that all factors which lowers credibility of UME are properly addressed
3. The JAMB Post UME should be retained and the Universities should ensure its credibility

References

Abdullahi, A. (1983). Study of the Predictive value of joint Matriculation Examination (JME) in selected school subjects in Nigeria. *Journal of Nigeria Educational Research Association 3(1)*, 29-34.

Akanwa, U.N. (2008). Predictive validity of JAMB University Matriculation Examination and Post University Matriculation Examination Scores on Performance in Nigerian Universities [unpublished PhD thesis) Abia State University Uturu.

Akoni,O.(2006,Jan. 27). LASU STUDENTS Protest POST JAMB exams *Vanguard* p.5 Education. *Paper presented at the Association of Vice-chancellors of*

Erigha A (2001, Jan. 21) Educated prostitutes. *Sunday Tribune*, p 8.*examinations:* A case study of Nigeria. Abuja: Nigerian Educational

The Guardian (2005, Dec. 5) The POST-UME test: Matters Arising. p 16.

Idika, O, Ayang, E, Joshua, M.T. (2007).JAMB and POST UME screening. *Journal of social and policy issues* 13(I) 162-188.Limited.

Iwuji, V.B.C. (1990). *Measurement and Evaluation for effective Teaching and learning*, Owerri: Joe Mankpa's Prints.

JAMB Online (2008); Board History: The establishment of JAMB *Retrieved on 11/03/08* from Http.www. Jamb.org.

Maduabum, M.A. (2004). *Fundamentals of education research.* Owerri: Versatile Printers. *Nigerian Universalities Annual Seminar" Cross River University of*

Nkemakolam, E.O. (2009). *Measurement in Education*: An Introduction. Owerri: Barloz Publishers Limited.

Nwachukwu, D.N. (2006). "POST UME Screening strategy for qualitative Education. *Paper presented at the Association of Vice- chancellors of Nigerian Universalities Annual Seminar" Cross River University of technology, Calabar, 6th June.* 154-180.

Obioma, G and Salau, M.(2007). *The predictive validity of public of Education (WAJE)* 7(3)159–162.

Olutola .A (1981). Socio Economic Background of students admitted through JAMB into the preliminary programmed in Nigerian Universities 1978/79 session. *Occasional paper in the faculty of Education, University of Ilorin.*

Olatunji, S.O, Akanwa, U.N., Nwahunnaya, C.I (2004) *Measurement and Evaluation of learning outcomes* Lagos: Naphtali prints, A division of HG Support Nigeria Limited.

Olatunji, S.O. and Igbokwe, U.O. (2006). *Demystified Educational statistics*

Oloho, C. (2006, Aug 31). Scrap post JAMB—*Daily Independent* p 7

Omirin, M.S (2005). Gender issue in the performance of students admitted through UME and pre-degree into Nigerian unive

rsities. *Education research and Review* 2 (3), 46-48.

Omirin, M.S. (2005). "Influence of University Matriculation Examination (UME) and pre-Degree scores in academic performance" *International Journal of social and policy issues* 13(I) 162-188.

Onuoha, M (2006). Post –JAMB / UME Screening: implications for Geo sciences Education in Nigeria. *Paper presented at the Nigerian association of petroleum explorationists- University assistance programme (NAPE-UAP) forum held at Channels hotel, Calabar.*

Sawyer, H. (1963). The University and the sixth form in *West African Journal of Education (WAJE)* 7(3)159–162.

Uvah, J.E (2005) Quality Assurance and Institutional Stability in Nigeria University System. *Nigerian Journal of Education Administration and Planning* 5 (l), 10-11.