

ASSESSMENT OF THE PREDICTIVE VALIDITY OF UME SCORES ON ACADEMIC PERFORMANCE OF SCIENCE UNIVERSITY UNDERGRADUATES

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Abstract

This study assessed the predictive validity of Universities Matriculation Examination (UME) scores on academic performance of university undergraduates. The subjects of the study consisted of 408 selected part III science students who got admission with UME 2004 result in the University of Ado- Ekiti, Nigeria. The UME scores and the Cumulative Grade Point Average (CGPA) of 300 level students were collected with the use of a proforma. Pearson Correlation and Regression Analyses were employed to test the research hypotheses raised for the study. The findings revealed that the predictive strength of the UME scores on academic performance of university undergraduates is low. UME is a poor predictor of academic performance. Hence, it was recommended that the JAMB should improve on the methods of administration of the UME so as to guide university to admit students who will perform well later in their respective courses.

Introduction

The need for high level skilled manpower in all sectors of the Nigeria's economy both public and private sectors made higher education more valued by all the stake holders and the general public. Up to 1976 each University, though few in number, conducted its own admission. The university designed its own admission form. The candidates sat for competitive entrance examinations. Candidates were finally selected for admission based on the performance in the qualifying examination and other criteria set by the University authority. There were education imbalance and other problems associated with the system of admission, hence, the Federal Government of Nigeria established Joint Admission and Matriculation Board (JAMB) in 1977 to conduct Universities Matriculation Examination (UME) in order to centralize admission.

Since the establishment of the JAMB it has become customary for most Nigerian Universities to use the UME result (as one of the major modes of entry into the Universities) for the purpose of admitting students for further studies (Alonge, 1986). The belief is that a student who attained high level of performance in UME is capable of pursuing a particular course of study or career in the university.

The matter of concern is that not all the students who were admitted into the University are always able to cope with the academic standard of the University. They cannot meet up with the academic standard of the institution. Some of them dropped out of the University without graduating. Some ended up in changing the course of study they were admitted to pursue. Some spent extra years before they could graduate and some ended up with poor grade or class (mere pass). This is contrary to the expected performance of students who attained high scores in the UME.

Many studies have used different criterion measures in predicting academic performance. Adeniran (1986) used self-concept as a predictor variable of science achievement of secondary school students. Charles (1984) used a combination of continuance in college and representation in honours list. While costing (1978) used grade point average in achievement test externally administered. Oluwatayo (2007) employed Pre-degree test scores in English Language, Mathematic, Chemistry,

Physics and Biology to predict university undergraduates' first year grade point average. It was revealed that the cognitive entry subjects have high predictive validities.

One type of prediction that has gained much prominence in educational circle is the use of scores derived from standardized tests to predict success or achievements in a particular course of study (Camara and Echtemacht, 2000; Geisjer and Studley (2001). Evidence shows that the best tests that are good predictors are applied to practical problems such as selection of candidates for college admission or provision of scientific basis for counseling the students on how to plan their academic future. Ojerinde (1975) investigated validity of National Common Entrance Examination Battery consisting of four tests-Arithmetic, English, Qualitative Aptitude and Verbal Aptitude. The criterion variable was success in secondary school as measured by the school certificate G.C.E. Multiple regression analysis was used and the result was that the composite measure of the tests was the best predictor of the criterion measure.

Aminu, Asabi and Suleman (2002), Abe (2003) and Gbore (2006) in their works showed that cognitive entry characteristics have rather low predictive validities on academic achievement. The result of the study of Alonge (1986) showed that certificate worth and JAMB result have low predictive strength on academic performance of University Undergraduates.

Purpose of the Study

The purpose of the study is to assess the predictive strength of UME scores on the academic performance of the university undergraduates. In order to achieve this, the following questions were raised.

1. Is there any relationship between the performance of students in U.M.E and academic performance of students in the University?
2. Will UME as mode of entry significantly predict academic performance of the University undergraduates?

Research Hypotheses

1. There is no significant relationship between students' performances in UME and 300 level result.
2. UME as mode of entry will not significantly predict academic performance of 300 level students.

Methodology

Design

The study is a descriptive case study type of which the independent variable (i.e the predictor) was the UME scores of part III undergraduates of the University of Ado- Ekiti, Nigeria. While the criterion measure or dependent variable was the cumulative grade point average (CGPA) of the 300 students

Sample

The study was carried out on a sample of 408 part III students. The sample was selected out of students who got admission in the year 2004 through UME to pursue various science courses in the University of Ado Ekiti, Nigeria. The selection was done by the combination of purposive and stratified sampling techniques.

Data Collection and analysis

UME (2004) scores and CGPA of 300 level students were collected with the use of a proforma. The data obtained were subjected to Pearson Correlation Analysis and Regression Analysis.

Results

Hypothesis I

There is no significant relationship between students’ performance in the UME and 300 level results.

Table 1: Test of Relationship between Students’ Performance in UME and 300 Level Results

Variable	No of Cases	R-calculated	R-critical	% Of associated variable
UME 300 level CGPA	408	0.0388	0.195	15

P> 0.05 (result not significant)

Table 1 depicts that r-calculated value 0.0388 is less than r-critical value 0.195 at 0.5 level of significance. This implies that there is no significant relationship between students’ performances in the UME and 300 level results.

Hypothesis 2

UME as mode of entry will not significantly predict academic performance of 300 level students.

Table 2: The Contribution of UME to the Academic performance of the 300 Level Students.

Variable	B	SEB	Beta	T sig
UME	0.009077	0.005455		
Constant	4.066777	1.118093	0.136724	1.668

Multiple R = 0.13672

R square = 0.01869

Adjusted R square = 0.01197

F = 2.78128

P > 0.05

The regression equation is

$Y = 0.13672 X + 4.06678$ where Y = the academic performance of 300 level students. X = the UME scores as predictor.

Table 2 shows that 0.136724 is the beta weight. That is 13.67 percent of the students’ academic performance is accounted for by the UME as a performance predictor. The F-ratio (2.78128) is not significant at 0.05 level. This means that UME as independent variable provided no significant explanation of variation in students’ academic performance. Therefore the hypothesis is not rejected – that is UME as mode of entry will not significantly predict academic performance of 300 level students. UME is a poor predictor of academic performance.

Discussion

The study revealed that the correlation between UME and academic performance is very low and there is no significant relationship between the students' performance in UME and academic performance in the University. The predictive Validity of UME is very low. This study supported the works of Abe (2003); Aminu, Asabi and Suleman (2002); and Gbore (2006) in which cognitive entry characteristics have low predictive strengths on academic achievement. The work also supported the work of Alonge (1986), which revealed that the certificate worth and entrance examination results are not significantly related to academic performance of University Undergraduates.

However, the findings of this work contradicted the work of Oluwatayo (2007) in the study in which Pre-degree test scores have significant predictive power on undergraduates' first year grade point average. The study also contradicted the work of Ojerinde (1976) in which high predictive validity was obtained when the combination of Quantitative Aptitude, Verbal Aptitude, Arithmetic and English Language as common entrance measures were used to predict college success.

Conclusion

It could be concluded in this study that there is no significant relationship between students' performance in UME and the academic performance of the University Undergraduates. Also the predictive validity of UME scores is very low. UME is a poor predictor of academic performance of university undergraduates.

Recommendations

Based on the findings and conclusion of the study, it was recommended that Joint Admission and Matriculation Board should try to improve on the methods of administration of test with the view to improving the predictive strength of the UME. Aptitude tests can also be incorporated into the UME. This will enable the institutions select suitably qualified candidates who will later perform well in the University. The students should make efforts to sustain the high level of performance attained at the entry point through out their university education programme. The past achievement should be a power stimulus for further effort.

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