# Effects of Entry Requirement and Secondary School Type on Students' Cumulative Grade Point Average in Taraba State University

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*Abstract* — This paper considered the effects of students' entry requirements, Secondary school type, and Cumulative Grade Point Average of the 2014/2015 final year students of the four faculties of the Taraba State University. Primary data were collected through the use of questionnaires on the respondents of the selected programmes from each faculty. Multiple correlation analysis was carried out on the students' CGPA's at lower levels, UTME score, SSCE results, and Secondary school type. It was discovered that only CGPA at the end of 300 level has a significant relationship with CGPA at the current level while the stepwise regression analysis shows that only CGPA at 300 level is the best predictor of students' graduation CGPA while all other variables are not significant.

**Keywords -** *UTME Score, SSCE Results, Secondary School type, CGPA.*

## I. Introduction

According to Tosanwumi (2011) To qualify for admission into the Nigerian university, a candidate must satisfy some minimum requirements. In the first place, he or she must obtain five relevant credits in the Senior Secondary School Certificate Examination (SSCE) including English and Mathematics. Examination taken by candidates in their last stage of secondary education is called Senior School Certificate Examination (SSCE). All senior secondary schools in the federation present candidates for the SSCE because the results are used for admission into tertiary Institutions, employment Purposes, and qualifications to stand for elective offices.

Another core component of the mandate of the examination bodies as espoused in the enabling law is the conduct of the SSCF for an external candidate.

The same SSCE is taken by different Secondary School types whether Public schools or Private schools.

In addition, such a candidate must sit for and obtain a minimum pass mark in the Unified Tertiary Matriculation Examination (UTME) conducted by the Joint Admissions and Matriculation Board (JAMB) as well as pass an additional post University matriculation examination screening test (post-UME) conducted by the selected university.

The JAMB is a Nigerian entrance extermination Board for tertiary institutions. The board conducts entrance examinations for prospective undergraduates into Nigerian Universities.

The board is also charged with the responsibility to administer similar examinations for applicants to Nigerian public and private Monotechnics, Polytechnics, and colleges of education. All of these candidates must have obtained the West African Certificate now West African Examination Council or its equivalent.

Notwithstanding these stringent requirements for admission, the Nigerian students still perform badly in their semester examination, indulging in a variety of examination malpractice which makes the conduct of examinations a tedious chore.

The performance of candidates in these examinations (SSCE and UTME) should reflect in their performance while in tertiary institutions. The school of thought is that the performance at (SSCE or UTME) is related to the student's Cumulative Grade Point Average (CGPA) except if there is some interference.

This study is to determine the relationship between SSCE, UTME score, Secondary School type, and (CGPA). Candidates who obtained the 5 minimum relevant credits in their SSCE are required to pass their UTME before proceeding to the tertiary institutions.

NUC (2007) defines grading as the process of applying standardized measurement of varying levels of achievement in a course. The Grade can be obtained through the use of the Grade Point Average (GPA) method. Performance in any semester is reported in Grade Point Average. This is the average of weighted grade points earned in the courses taken during the semester. The Grade Point Average is obtained by multiplying the Grade Point average in each course by the number of Credit Units assigned to that course, and then summing these up and dividing by the total number of Credit Units taken for the semester.

The CGPA is an indication of the student's overall performance at any point in the training program. To compute the Cumulative Grade Point Average, the total of Grade Points multiplied by the respective Credit Units for all the semesters are added and then divided by the total number of Credit Units for all courses registered by the student.

## II.    RESEARCH METHODOLOGY

The data for this work was collected using questionnaires from all the four faculties, namely Faculty of Agriculture (FAG), Faculty of Arts and Social sciences (FASS), Faculty of Education (FED), and Faculty of Sciences (FSC) of the Taraba State University (TSU). Three programs were selected from each faculty using a Simple random Sampling and a Method of proportional allocation

of sample size was employed in allocating the sample sizes to each of the faculty using

$$n_h = n\frac{N_h}{N} \qquad 3.1 .$$

(See Fabian 2012)
Where,

$n_h$ = Sample size to be allocated to each faculty.
n = number of samples required.
$N_h$ = Number of Students per faculty     $N$ = Total number of final year students from the 4 faculties.
Data collected includes, CGPA at the end of 300 levels for those in faculty of Arts and Social Sciences, Faculty of Education and Faculty of Sciences and CGPA at the end of 400 levels for those in Faculty of Agriculture, senior secondary school type of the respondents, this has two mutually exclusive dummy variables; public school coded as 1, while private school is coded as 0, other variables include UTME scores which range from 0 to 400 and also scores in O' level, where five relevant credit passes for each respondent were rated in scale as;
A1= 9, A2=8, B3=7, C4=6, C5=5 and C6=4
The scales were added for each respondent and served as O' level score.

The population of this project work consists of all the 1,293 final year students of 2014/2015 academic session of TSU. Where, FAG = 45, FASS = 507, FED = 523 and FSC = 223. The sample size chosen is 150.

The selected programs are represented in Table 1 while Table 2 shows the sample allocated to each faculty and program.

### Table 1. Code Used for Random sampling

| | FAG | | FASS | | FED | | FSC |
|---|---|---|---|---|---|---|---|
| **CODE** | **Programme** | **CODE** | **Programme** | **CODE** | **Programme** | **Code** | **Programme** |
| 01 | B.Agric Agronomy | 02 | B.sc economics | 07 | B.Sc Ed. Geography | 05 | B.sc Physics |
| 02 | B.Agric. Agric. Econs. & Ext. | 05 | B.sc Geography | 04 | B.A Ed. English | 06 | B.sc Statistics |
| 03 | B.Agric. Animal Science | 07 | B.A History | 10 | B.A Ed. Islamic Studies | 04 | B.sc Mathematics |

### Table 2: Sample selected per Faculty (Stratum)

| Stratum | $N_h$ | $W_h$ | $n_h = nW_h$ | $n_h = n/L$ |
|---|---|---|---|---|
| FASS | 507 | 0.392 | 59 | 19 |
| FED | 523 | 0.404 | 60 | 20 |
| FSC | 223 | 0.172 | 26 | 9 |
| FAG | 45 | 0.034 | 5 | 2 |
| **TOTAL** | 1,293 | | | 50 |

### III.    ANALYSIS AND RESULTS

Regression and Correlation Analysis was employed to investigate the relationship between the SSCE, UTME score, School type and the CGPA.

**Table 3.** Correlation Analysis for the Four  faculties

| | | CGPA 300L | AT CGPA 200L | AT CGPA 100L | AT SEC. SCH. TYPE | UTME SCORE | O' LEVEL |
|---|---|---|---|---|---|---|---|
| CGPA AT 300L | Pearson Correlation | 1 | .894** | .838** | .012 | .136 | .123 |
| | Sig. (2-tailed) | | .000 | .000 | .892 | .125 | .168 |
| | N | 128 | 128 | 128 | 128 | 128 | 127 |
| CGPA AT 200L | Pearson Correlation | .894** | 1 | .923** | -.038 | .185* | .138 |
| | Sig. (2-tailed) | .000 | | .000 | .674 | .037 | .122 |
| | N | 128 | 128 | 128 | 128 | 128 | 127 |
| CGPA AT 100L | Pearson Correlation | .838** | .923** | 1 | -.069 | .130 | .102 |
| | Sig. (2-tailed) | .000 | .000 | | .436 | .143 | .254 |
| | N | 128 | 128 | 128 | 128 | 128 | 127 |
| SEC. SCH. TYPE | Pearson Correlation | .012 | -.038 | -.069 | 1 | .047 | -.011 |
| | Sig. (2-tailed) | .892 | .674 | .436 | | .597 | .901 |
| | N | 128 | 128 | 128 | 128 | 128 | 127 |
| UTME SCORE | Pearson Correlation | .136 | .185* | .130 | .047 | 1 | .103 |
| | Sig. (2-tailed) | .125 | .037 | .143 | .597 | | .250 |
| | N | 128 | 128 | 128 | 128 | 128 | 127 |
| O' LEVEL | Pearson Correlation | .123 | .138 | .102 | -.011 | .103 | 1 |
| | Sig. (2-tailed) | .168 | .122 | .254 | .901 | .250 | |
| | N | 127 | 127 | 127 | 127 | 127 | 127 |

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Stepwise Regression Analysis Result for the four faculties

**Table 5.** Model Summary for the four faculties

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .894[a] | .799 | .797 | .36775 |

a. Predictors: (Constant), CGPA AT 200L

**Table 6.** Coefficients Values for the four faculties

| Model | Unstandardized Coefficients | | Standardized Coefficients | | |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | t | Sig. |
| 1(Constant) | .399 | .119 | | 3.341 | .001 |
| CGPA AT 200L | .876 | .039 | .894 | 22.350 | .000 |

a. Dependent Variable: CGPA AT 300L

**Table 7.** Excluded Variables for the four faculties

| Model | | Beta In | T | Sig. | Partial Correlation | Collinearity Statistics Tolerance |
|---|---|---|---|---|---|---|
| 1 | CGPA AT 100L | .092[a] | .882 | .379 | .079 | .148 |
| | SEC. SCH. TYPE | .046[a] | 1.143 | .255 | .102 | .999 |
| | UTME SCORE | -.030[a] | -.729 | .467 | -.065 | .966 |
| | O' LEVEL | .003[a] | .067 | .947 | .006 | .985 |

a. Predictors in the Model: (Constant), CGPA AT 200L
b. Dependent Variable: CGPA AT 300L

The correlation results for the four faculties as shown in Table 3. shows that only CGPA at 100 Level and CGPA at 200 Level has strong/positive perfect relationship with the CGPA at 300 Level while the three other factors (Secondary School type, UTME score and O' level) has weak/negative perfect relationship with the CGPA at 300/400 Level.

The model summary for the four faculties as shown in Table 5 shows that about 79.9 % of the variation in CGPA at 400/300 level is explained only by CGPA at 300/200 level.

The ANOVA Table for the four faculties as shown in Table 6 shows that best model to use in predicting the graduation CGPA is $Y = \beta_0 + \beta_1 CGPA_{200L/300L}$

The Coefficients and Excluded variables for the four Faculties as shown in Tables 6 and 7 shows that when a stepwise regression analysis was carried out on the six variables namely CGPA at 300L, CGPA at 200L , CGPA at 100L, Secondary School type, UTME Score and O' Level. During the analysis, it was discovered that only CGPA at 200L/300L is significant in the model. All other variables are not significant in the model. It can therefore be concluded that students' performance at the 200/300 level is the best predictor of their final CGPA (Graduating CGPA).

The Model for predicting the Graduation CGPA is given as;

$$CGPA_{\text{Final L}} = 0.399 + 0.876\, CGPA_{200L/300L}$$

### IV.   CONCLUSION

The data presented here shows that the CGPA at 100 level and CGPA at 200 Level correlates positively/strongly with performance in the third year of study of students in faculty of Arts and Social Sciences, Faculty of Education and Faculty of Sciences and the data also shows that CGPA at 200 Level and 300 Level correlated positively/strongly with performance in the fourth year of study of students in faculty of Agriculture.

On the other hand, Secondary School type, UTME score and O' level (SSCE) results correlated negatively/weakly with the CGPA at 100 level, CGPA at 200 Level and CGPA at 300 Level for faculty of Arts and Social Sciences, Faculty of Education and Faculty of Sciences and CGPA at 200 level, CGPA at 300 Level and CGPA at 400 Level for faculty Agriculture. Based on these findings we can therefore, conclude that there is Significant relationship between CGPA's at lower levels and the current level and there is no significant relationship with Secondary school type, UTME score and SSCE results, that CGPA at 200 level is the best predictor of predicting the graduation CGPA of the final year students of faculty of Arts and Social Sciences, Faculty of Education and faculty of Sciences and CGPA at 300 level is the best predictor of predicting the graduation CGPA of the final year students of faculty Agriculture.

Based on the finding of this study the following recommendations were made:
1.    As far as undergraduate programme is concerned in Nigerian universities, there should be emphasis on the teaching and studying at early session's courses as early sessions CGPA has strong relationship with the current CGPA and could also be used to predict subsequent academic performance of Students.
2.    Much priority shouldn't be given to those with high UTME score and High Number of credits as UTME Score and Number of credits have weak/poor relationship with the students' academic performance while in university.
3.    Since UTME score is poor predictor of student academic performance Taraba State University should be conducting POST-UTME examination before giving admissions to students.
4.    That performance at the O'levels has no positive correlation with graduating CGPA.

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