EVALUATION OF UNIVERSITY FRESHMEN SCHOLASTIC ACHIEVEMENT BASED ON SSCE, UTME, GENDER AND AGE IN SOUTH WEST NIGERIA

Fehintola, J. O.[i]
Department of Counselling &
Human Development Studies,
University Of Ibadan, Ibadan, Nigeria

Abstract:

This study is designed to examine the composite and relative effects of SSCE result, UTME score, age and gender on academic performance of University freshmen. Descriptive research design of ex-post facto type was employed to investigate the relationship that exists between the performance in SSCE, UTME, age and gender and university freshmen academic performance. University freshmen in the federal universities in south west Nigeria were used, 2518 participants 1423 males and 1095 females. Secondary data were collected from the concerned universities' records office. Correlation and multiple regression analysis were used to analyze the three research questions that were raised at 0.05 levels of significances. The result revealed significant composite effect and relative contributions with SSCE result as the most potent predictor (β = 0.0140; t= 7.241; p< 0.05), followed by age (βeta = -0144, t=7.024, p<0.05). However, sex and UME scores were not potent predictors of academic performance of University freshmen. Furthermore, the findings showed that there is significant difference in the academic performance of university freshmen that holds SSCE result by WAEC and NECO, (t = 6.795, df=1869, p< 0.05). However, there was no significant difference in the academic performance of male and female university freshmen. Based on the findings of this study, it was recommended that parents should see to the education need of their children early enough. Also, that SSCE exam should be looked into on issues of teaching-learning; conduct and marking of the examination papers. Also, that JAMB organization should be sanitized so as to be able to perform the roles it is expected of her.

[i] Correspondence: email fehintola.j@dlc.ui.edu.ng, jof677@yahoo.com, joseph.fehintola@gmail.com

Keywords: freshmen, academic performance, senior school certificate examinations, university matriculation examination

1. Introduction

The academic performance is defined by students' reporting of past semester Cumulative Grade Point Average/Grade Point Average and their expected GPA for the current semester. The grade point average or GPA is now used by most of the tertiary institutions as a convenient summary measure of the academic performance of their students. The GPA is a better measurement because it provides a greater insight into the relative level of performance of individuals and different group of students

According to Johnes (1990), the age of a student on entry to the university, can have two different and opposite effect: If a student leaves his/her job to continue his/her studies, such maturity and dedication may positively influence the academic performance of the individual. On the contrary, it could be argued that, older students might have forgotten the academic life and they may be in a difficult position to adjust. Studies conducted by Jansen (1996), and Vander Hulst and Jansen (2002) showed that, younger students have better study or cognitive progress than older students, thus indicating that, higher age is an indicator of lower cognitive ability. Other studies have shown that, younger students drop out less often than older students (Mclnnes et al, 2000; Murthaugh, Burns and Schuster, 1999). However, Trueman and Hartley (1996) found older students to perform equally well or sometimes better than younger students due to maturity. According to Trueman and Hartley, this fact could be mediated by time-management skills that, older mature students were better in time management. Furthermore, according to Mclnnes, James and MacNaught (1995), mature students have clearer career orientation and lower integration needs. Therefore, they would likely achieve better results.

Even though other studies found that female students showed better progress than male students did. Vander Hulst and Jansen (2002), observed that, an examination of attrition amongst males and females separately identified striking differences between the two groups in the characteristics associated with non-completion of their education.

Emeneri correlated performance at WASC with global measures of achievement at the University level. The basic method of analysis was correlation technique and the attention was paid to the findings of Salahudeen and Murtala (2005). Aremu, Salami and Salam, (2005), discovered that 'O'-level grades were able to discriminate between an outstanding student and average student but hardly did between an average student

and a 'poor' student. In the study by Richards and Wilson, they found that with mean 'O'-level grades below 55%, the probability of passing was constant at about 40%. The implication of these for correlational technique is that, low correlations might be obtained while in actual fact performance in school leaving examination is significantly related to performance at the University.

As earlier stated and as widely researched as the area of academic performance and associated factors confirmed that, it never seizes to call for further investigations. To buttress this claim, Aremu, Salami and Salam, (2005) urged researchers to embrace this challenge by studying more variables that have the tendency of determining a higher level of teaching-learning outcomes into this challenge. Therefore, the present study takes a look at the predictive value of senior school certificate examinations result, unified tertiary matriculation examination result, age and sex on academic performance among university freshmen in south-west Nigeria.

2. Statement of the Problem

The numbers of candidates seeking for admission are enormous. Every year, the total number of students who pick U.I. as their first and second choice with UTME scores above 200 equals or reaches 38,669. Total number of students invited for interview after due processing of UTM/SSCE result also reaches 5383. The total number interviewed equals to 4929 and the total number recommended for JAMB admission reaches 3925. Finally, the total number accepted by JAMB equals to 3925. Out of this 3925, only 3810 candidates (47% female and 53% male) were cleared and make the matriculation oath; Olayinka (2016). He stated further that, there is danger posed by non-seriousness with their studies. This is because; the University has a prescribed minimum level of performance for any student to be allowed to continue his or her programme. At the end of every session, the Cumulative Grade Point Average (CGPA) is used to assess the overall performance. Failure to pass the minimum number of units at any level will lead to; either withdrawal from the progrmme of study or withdrawal from the University depending on the Faculty decision.

If a student managed to pass through these hurdles and eventually asked to withdraw for poor academic performance after the first year, such student may commit suicide, or become a vagabond or psychologically imbalance for the rest of his or her life. This may lead to dodging his/her colleague, whenever coming across them because of shame. Also, it will be a shame on the part of the parents that their child or ward was withdrawn from University for poor academic performance and all the money they had spent in paying tuition fees, accommodation, feeding and buying textbooks might have

been wasted. Also, the facilities that are put in place by the university administration to create an environment conducive to learning could have been wasted. The money earmarked by the Government for education on annual budget may also be a waste.

Also, if the poor academic performance among the university freshmen is not checked, and the withdrawal rate is on the high side, it means the country will be producing less and less of the leaders of tomorrow: the managers, the entrepreneurial class, the teachers, the doctors, the policymakers, the law enforcement officers, the professionals and so on. And this means that, the country will be in the danger of mass-producing miscreants: the disaffected, the rejected, the misdirected, the unlearned, the angry, the wronged, the agitated and the hopeless.

3. Purpose of the Study

The study is designed to examine the composite effect of SSCE result, UTME score, age and sex on academic performance of University freshmen. Also, this study is meant to determine the relative contribution of each of these variables on academic performance of university freshmen.

4. Significance of the Study

Ascertaining the singular and collective relationship between SSCE, UTME score, age and sex on academic performance of University freshmen will challenge respective stakeholders to appropriately maximize the use of these variables to promote students' academic performance in learning. Also, determining appropriate SSCE, UTME score, age and sex and their correct use will go a long way in enhancing academic performance of university freshmen. When this is done: both teachers and students will be satisfied, huge sums of money spent by parents in engaging their children/wards in repeated examinations will stop, and government's primary objective to produce future patriots who are educationally and technologically sound will easily be realized. Furthermore, the study will provide information on whether sex and age are significant in academic performance or not.

5. Research Questions

The following research questions guide the course of this study. The instrument that was used for this work shall therefore be designed to answer the following questions:

1. Are there significant relationships among the independent variables (sex, age, SSCE result, and UTME score and dependent variable (academic performance of university freshmen?

2. What is the composite contribution of the independent variables to the dependent variable?

3. What is the relative contribution of the independent variables to the dependent variable?

6. Methodology

Descriptive research design of ex-post facto type was employed to investigate the relationship that exists between the performance in SSCE, UTME score, age and gender (predictor variables) and university freshmen academic performance (criterion variable). The population for this study consists of the students who enrolled at the five Federal Universities in the south- west, Nigeria in 2015/2016 session. From this population, records on performance in public examinations from random sample of 2,517 candidates were obtained from these Universities admission officers using predetermined criteria such as age categories, gender, UTME score and SSCE result by WAEC / NECO etc. The reason for considering these five Universities is that, they share similar admission requirements; similar curricula and they are located in the same geo-political zone. A sample of 2517 university freshmen in the five federal universities in the southwest, Nigeria was randomly chosen from these universities. The sample consisted of 1425 males and 1095 females with 666 holding NECO SSCE results while 1205 holding WAEC SSCE results and rest 756 combine both SSCE result of NECO and WAEC. The average age of the participants is 20.63 years and with standard deviation of 2.96 years. The first year students were considered in this study because differences in performance are usually more noticeable early in the course than in the final year.

Data were collected from the admission offices and academic record office of the selected Universities. The data were collected on the basis of the subgroups involved in the study. The subgroups were male and female and the age of candidates that gained admission on the basis of possession of minimum of five or six credit passes at one or two sittings in the WASSCE and SSCE and that had enrolled as a student in any of five Federal Universities in the south west of Nigeria in 2015/2016 session. Data collected were then analyzed using simple correlation and multiple linear regression analysis at α =0.05 level of significance.

7. Results

Research Question 1: Are there significant relationships among the independent variables (sex, age, SSCE result, and UTME score) and dependent variable (grade point average) for academic performance among university freshmen?

The result from Table1 depicts the test of significant correlations among independent variables (age, sex, SSCE result and UTME scores) and dependent variable (Grade Point Average (GPA)) of the university freshmen.

For the purpose of using Pearson product moment correlation method and multiple regression analysis, sex was coded thus male= and female=2. The SSCE result was also coded thus A1=6, B2=5, B3=4, C4=3, C5=2 and C6=1. The UTME score was converted to 40%.

Table1: Summary of Test of significant Correlations among Age, Sex, SSCE result, UME score, Academic Self- Efficacy and Grade Point Average of the Respondents

	X	SD	GPA(r)	Sig. P	Remark
Sex	-	-	-0.002	0.927	NS
Age	20.63	2.91	0.175	0.000**	S
UME score	22.41	2.35	0.024	0.232	NS
SSCE result	30.21	0.84	-0.113	0.000**	S
GPA	3.75	0.92	1.000	-	-

NB: ** Significant at P<0.01   * Significant at P<0.05

However, the test of hypothesis one showed that Grade Point average had no significant correlations with sex (r = -0.002, p> 0.005) and UTME Score (r = 0.024, p> 0.05) of the respondents, but GPA had significant correlations with age (r = 0.175, P<0.05) and SSCE result (r = -0.113, P< 0.05) of the respondents.

It is the interest of the researcher to investigate whether sex, age, UME Score and SSCE result would significantly predict grade point average of the University freshmen. To accomplish this laudable objective of the study, multiple regression analysis was resorted to, Grade point average (GPA) as a dependent variable was regressed on age, sex, SSCE result and UTME score as independent variables.

Research Question 2: What is the composite contribution of the independent variables to the dependent variable?

Table 2: Summary of Regression Analysis of the Combined Prediction of Academics
Performance by the Four Independent Variables

R	R-Square	Adjusted R-Square	Std. Error of the Estimate
0.701	0.49	0.48	0.95274

Analysis of Variance

Source of Variation	Sum of Square	Df	Mean square	F	Sig.
Regression	118.570	4	29.64	32.64	0.000*
Residual	2280.154	2512	0.908		
Total	2398.723	2517			

*Significant at p<0.05

Table 2 shows the prediction of all the four independent variables to the dependent variables. That is, academic performance of University freshmen correlated positively with the four-predictor variables. The table also shows a coefficient of multiple correlations (R) of 0.700, and a multiple R square of 0.49. This means that 49% of the variance in the academic performance of University freshmen is accounted for by all four predictor variables, when taken together. The significance of the composite contribution or the prediction was tested at $p < 0.05$ using the F- ratio at the degrees of freedom (df= 4, 2512). The table also shows that the analysis of variance for the regression yielded a F-ratio of 32.64 (significant at 0.05 level). This implies that the joint contribution of the independent variables to the dependent variable was significant and that other variables not included in this model may have accounted for the remaining variance.

Research Question 3: What is the relative contribution of the independent variables to the dependent variables?

Table 3: Relative Contribution of the Independent Variables to the Dependent Variable
(Test of Significance of the Regression Coefficients)

Variables	Unstandardized coefficient	Standardized coefficient		T	Sig.
	B	Std. Error	Beta		
Sex	-0.075	0.039	-0.038	1.929	0.054
Age	-0.048	0.007	-0.144	7.024	0.000
SSCE Result	0.013	0.002	0.140	7.241	0.000
UTME-Score	-0.007	0.008	-0.017	0.886	0.387

** Significant at P< 0.01

*   "   " P< 0.05

Table 3 reveals the relative contribution of the four independent variables to the dependent variable, expressed as beta weights. The partial correlation coefficients of

sex, age and UTME- score have negative relationship with the academic performance of University freshmen. The positive value of the effects of SSCE- result implies that the academic performance of University freshmen is actually determined by positive reinforcement of these two variables. Using the standardized regression coefficients to determine the relative contributions of the independent variables to the explanation of the dependent variable SSCE-result (Beta = 0.140, t=7.241, P< 0.05) is the most potent contributor to the prediction followed by age (Beta =-0.144, t=7.024, P< 0.05); followed by UTME- Score (Beta =-0.017, t=0.886, P>0.05) and sex (Beta =-0.038, t=1.929, P>0.05) in that order. In a nutshell, the academic performance of university freshmen are determined by these four variables as arranged above in the order in which they contributed to the performance of the 100 level students' success.

8. Discussion

The result of the study (in relation to research question 1) showed that sex and UTME score had no significant correlations with academic performance (GPA) of the University freshmen. Some past studies equally established that there was no significant correlation between sex, and academic performance of university freshmen (Susec-Michieli & Kalsnik, 2003)

Nevertheless, it has been well documented in the literature that there was significant relationship between gender and GPA of the University freshmen (Fehintola, 2011). The result of this study also showed that UTME score do not correlated significantly with academic performance of University freshmen. This finding is in line with the finding of Obioma (2005). The results of this study therefore suggest that the SSCE result is better correlated with 100 level academic performances than UTME scores run against the study that was conducted in UNN in which the SSCE result was a better predictor of the student performance (Obioma, 2005). Several factors could be responsible for the difference including organization of the examination and societal morality.

The result of the study (in relation to research question 2) shows that 49% of the variance in academic performance of University freshmen is accounted for by the SSCE-result, UTME-score, age and sex. The value though was small but the F-value 32.64, which is significant at P =0.05 shows that the effect is still significant. Umo and Ejedu (2008) found that differences in students' cognitive and behavioural adjustment are as a result of learners' variables like family size, material, education, poverty and home environment. Adetona (2005) and Ukwueze (2007) also corroborate the result by noting that age and sex affect learning outcome. The result explains the need to look beyond

one variable as accounting for either low performance or high achievement. If age or UME-score is identified as responsible for academic performance, other variables like sex or SSCE- result may influence academic performance indirectly.

The result of the study (in relation to research question 3) shows that, the relative contribution of each of these independent variables on academic performance among the University freshmen in the study, SSCE result appears as the most potent contributor to academic performance among university freshmen. This means that SSCE result of University freshmen is most important than any other factors in predicting their academic performance.

Age was the next potent factor that predicts academic performance of University freshmen in south West Nigeria. This shows that, age is significant to academic performance. One may be young and be brilliant and one may be old and not sound academically. This finding corroborate Hulst and Janean (2002) who discovered that, younger students have better study progress than older students indicating that, higher age is an indicator of lower ability. Also, this finding is against the finding of Trueman and Hartley (1996) who found older students to perform equally well or sometimes better than younger students.

UTME-score was next to age, UTME- score is a less predictive factor of academic performance of University freshmen. This finding is in line with Umo and Ejedu (2008) who discovered in their study that UME- score had low correlation with grade point average. He concluded that UTME-score correlated poorly to academic performance of University freshmen due to malpractices, which have eaten deep into the examination processes.

For finding in relation to sex, that sex is not significant in predicting academic performance of University freshmen. This implies that gender has no significance determining effect on how a person will perform. This finding is against the work of researchers who find sex as a determining factor in doing well on a particular task. However, this may be due to the environment, teaching styles, instructional aids available, school environment, home background as found by researchers like Umo and Ejedu (2008) and Jordan and Nestle (1999) who cited these as other factors that may enhance the achievement of students in a learning environment.

9. Recommendations

Based on the findings from this study, the following are recommended:

SSCE result is a better predictor of academic performance of university freshmen. Therefore, more attention needs to be given to SSCE examinations as regard teaching of

the students while in school, the syllabi, handling of the examination supervision, investigation and marking of the papers.

UTME score is not significant predictor of academic performance of university freshmen; therefore, the organization of the examination and societal morality should be looked into, to make the examination perform the role it is meant for.

Age of the students is a significant predictor of academic performance of university freshmen, the researcher observed that, the younger students performed better than the older ones, the researcher therefore advices the parents to see to their children's education while they are young and they should avoid seeking for unnecessary assistance for them.

The sex differentials in performance of the students were not significant. In the light of these, parents should develop positive attitudes to female education as in the case of male education.

The universities should make sure that, post UTME screening exercise is not abolished and they should make sure that the question to be used are reliable and valid.

10. Conclusion

SSCE- results, UTME- score, age and sex exert dominant influence on both university freshmen and university undergraduates in general. The high achievement or failure rate stems from a post pourri of factors some of which have been studied in this work. The study has revealed that, a student may have more than one reason for the poor academic performance and that a quick intervention will lead to the identification of the factors responsible and find solution to them. The model from this study is tenable in explaining the significant predictors between independent variables and dependent variable with SSCE result having the most potent factor followed by age, UTME scores and sex.

References

1. Adetona, D. A. 2005. Gender and Birth Order as Predictors of Normal Pupils' Anxiety Patterns in Examination. *Ibadan Journal of Educational Studies. 1(1).*
2. Aremu, A.O; Salami, S.O. and Salam, J.O. 2005. Academic Performance 5 - factor inventory, Ibadan: Stirling Horden Publisher in Nigeria limited.

3. Connell, *J.P.*, & Halpern-Felsher, B.L. 1997. How neighborhood affects educational outcomes in middle childhood and adolescence: Conceptual issues and an empirical example. In Brooks.

4. Fehintola, J.O. 2011. Predicting Senior Secondary School Certificate Examinations performance from Junior Secondary School Certificate Examinations results. African Journal of Educational Research vol. 15, No. 1 & 2. pgs 27-35; ISSN: 0303-3872.

5. Jansen, H. W. 1990. Longitudinal structural equation models of academic self-concept and achievement: Gender differences in the development of math and English constructs. *American Educational Research Journal,* 35, 705 - 738.

6. John, A.1996. Test Development Processes: The WAEC Experience 1. In Test Development and Administration Processes in Nigeria: Problems and Solutions. Yaba (Lagos): WAEC.

7. Marthaugh, T., Burns, N. D., and Schuster, M. F. 1999. The Role of efficacy expectations in predicting the decline to use advanced technologies: The case of computers. *Journal of Applied Psychology,* 72, 302 – 31

8. Mclnnes, M. J. 2000. Education in Declining Economy. The Case of Zambia, 1975 – 1985. Washington D.C.: World Bank.

9. Mclnnes, V.; James, C. P. and Mao Naught, C.S. 1995. Motivation and achievement. In S.S. Feldman & G.R. Elliott (Eds.), at the threshold: The developing adolescent (pp. 308 - 330). Cambridge, MA: Harvard University Press.

10. Nestle, A. J. 1999. School District Parent Involvement policy and *Programs. Elementary School Journal* 101, 1, 101-18.

11. Obioma, J. F. 2005. Correlation between student's characteristics and performance in Mathematics; in Secondary Schools in Lagos State. An Unpublished Research Project Olabisi Onabanjo University, Ago –Iwoye.

12. Shah, A. and Burke, P.C. 1999. An organizational analysis of the effects of ability grouping: *American Educational Research Journal,* 32, 687 - 715. Gamoran, A. 1992. The variable effects of high school tracking. *American Sociological Review,* 57(6), 812 - 828.

13. Susec-Michiel, J. P. and Kalsnik, 2003. Educational risk and resilience in African-American youth: Context, self, action, and outcome in school. *Child Development,* 65, 493-506.

14. Trueman, W. J., and Harthey, S.M. 1996. How students invest their time out of school: Effects on school engagement, perceptions of life chances, and achievement. Report No.29.

15. Ukwueze A. C. 2007. Effects of Learner; variable on Academic performance and Adjustment of Junior Students: Counselling Implication for UBE programme. Journal of Counselling Association of Nigeria.

16. Umo, A. and Ejedu, A. M. 2008. Student achievement in public magnet, public comprehensive, and private city high schools. *Educational Evaluation and Policy Analysis,* 18(1), 1 -18.

17. Vander. H. and Jansen, H. O.2002. Factors Related to the Achievement and Adjustment of Young African American Children, Child development, *Journal of the Society for Research in child Development.* 65 (4), *1080-109.*

18. West African Examination Council 2015. Statistics of Entry Performance in WAEC Examination: Highlights of Result Statistics 1992-1994. Yaba, Lagos: WAEC