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ANALYSIS OF ACADEMIC PERFORMANCE OF SCIENCE- RELATED GRADUATES ADMITTED THROUGH UTME AND UTME/POST- UTME IN NNAMDI AZIKIWE UNIVERSITY, AWKA

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Abstract

The main focus of this study is to examine the entry mode that has yielded better academic performance of graduates, an analysis on academic performance of Science-related graduates admitted through UTME only and those admitted through UTME/post-UTME in Nnamdi Azikiwe University, Awka became of great essence. It was an ex-post facto research type. The study was guided by three research questions and three null hypotheses. The study covered eight academic sessions, four years before the introduction of Post-UTME from 2001 – 2005 and four years after the introduction of Post-UTME from 2005 – 2009. The population of the study was 35,308. The sample was 1928 drawn from the department following the admission and registration lists of those who were admitted through UTME only and those admitted through UTME/Post-UTME respectively. Two instruments were used for data collection, which included Admission list and student's academic records. Mean statistics was used to analyze the research question while the null hypothesis was tested using z-test at 0.05 level of significance. The finding revealed the following; the academic performance of science-related graduates admitted through UTME/post-UTME from 2005-2009 was higher than that of their counterpart admitted through UTME only from 2001-2005. Based on the findings the study recommended among others that; Federal government and National university commission (NUC) should mandate every Nigerian universities to conduct post-UTME screening exercise for its obvious reason of producing graduates with better academic performance. Also post –UTME should be reinstated as a functional screening exercise for admission into Nigerian universities.

Keywords: Academic Performance, Education, FCGPA Post-UTME, Science-related disciplines. UTME,

Introduction

The knowledge that stems from education builds upon each other and attracts creative minds alike which bring forth greater opportunity for innovations,

technology explosion, growth, development and global interconnectivity. Education in its sense gives one the opportunity to become a productive member of a civilized society. Education is a fairway into attaining ones micro and macro dreams, mission, interest, vision and aspirations. Basically, in formal educational institutions success is measured by analyzing the academic performance of students based on the standard set by Ministry of Education. In this context, analysis were carried out on students' academic performance in Science-related discipline as it relate to mode of entry in Nigerian University Education namely UME which is now known as Unified Tertiary Matriculation Examination (UTME) and Post-Unified Tertiary Matriculation Examination (Post-UTME) in order to compare and contrast which admission procedure produces better academic performance of graduates in Science-related disciplines.

Academic Performance is an instrument of check. Hong, *et al*. (2024) describes student academic performance as a standard in which existing programme can be assessed to determine the efficacy of the programme to individual learner. In essence, academic performance is actually a standard parameter for ascertaining the capabilities of a student from which their potential could be inferred. It is inevitable in any formal educational institution. Thus, authors define academic performance as a formal evidence of learners' commitment to organized body of knowledge, attitude and skills exposed to them by their tutors in different citadel of learning. Onihunwa, *et al*. (2018) views that academic performance is usually measured in examination or through continuous assessment tests and could be used to determine students' FCGPA depending on assessor's reasons.

Obviously, academic performance as it relates to modes of admission has attracted the attention of many researchers. Yilmaz and Sarpkaya (2022) reported that contrary to expectation that all students admitted into the university irrespective of the mode of entry and chosen disciplnes would be able to cope with the academic rigors, though some students drop out on the way without graduating from the university. Also, many students change their courses while others spend extra years

before graduating; and more often some students end up with third class or adversely with low Final Cumulative Grade Point Average (FCGPA) from many universities in Nigeria thereby compounding their chances of gainful employment. According to authors, the belief of people over which mode of entry is better in terms of university academic achievement of student is different from one author to another. Hence, there have been conflicting findings on the predictive strength of modes of entry in forecasting students' academic performance in university examinations.

The quality of graduates from Nigeria universities in recent times has become a major source of concern for stakeholders in the Nigerian education sector. Most of these graduates, because of poor academic status are unemployed thereby contributing to the economic challenges of the nation (Otekunrin, Okon and Otekunrin, 2017). They attributed poor academic quality to many factors which included poor infrastructural facilities incessant strikes by labour unions in universities, poor funding of the educational sector, lack of dedicated and qualified academic staff, examination malpractices among others. Other educationist, however have argued that the incompetence of many university students is precipitated by the selection modes (AI Tamimi, AI Mashrafi & Thottoli 2023). Submitting on a similar situation, Ibanga (2015) suggested that in order to understand why graduates from Nigerian universities are dropping in academic quality one need to look at the various entry modes of the extrants and distinguish which of them has been able to produce the best of graduates.

As a result of aforementioned situation it therefore became pertinent to analyze various modes of admission into the Regular Bachelors Degree Programme of the university in order to really ascertain the true situation in the interest of posterity. This is necessary since it is clear from studies that mode of admission procedures of a university might have an impact on the academic performance of graduates.

In support of the above submission, research findings such as Babatunde, (2017); Busayo, (2010); Ifedili and Ifedili, (2010); Nwanze (2006), revealed Post-

UTME as a predictor of academic excellence over UTME. Also, research study of Kolawole, Oginni and Fayomi(2011) in their own study revealed significant difference in modes of entry, with post-UTME as best predictor of students' academic performance in Chemistry in Nigerian universities. In another vein, research findings of Afu and Ukofia (2017); Ajaja, (2010); Evroro, (2009); Ezema, (2006); Long, (2005); in their separate studies revealed that there was no significant relationship between modes of entry into the university and students' academic performance while the study by Ogbebor (2012) revealed that undergraduates admitted through UTME performed better than students admitted through remedial programmes. Thus, research reports on student's academic performance in relation to modes of entry are seen to be inconsistent, vary or are even controversial.

Meanwhile, the study by Husaini and Shukor (2023) indicated that student's academic performance can also be determined by different conditions other than modes of entry such as learning abilities, race, academic environment, gender and choice of disciplines among others. Disciplines as it relates to modes of entry and academic performance are areas of interest in this study. Science-related disciplines which houses both Applied Biochemistry and Computer science courses among others will be analyzed on the basis of student's academic performance of graduate admitted with UTME only and graduates admitted with both UTME and post-UTME in Nnamdi Azikiwe university, Awka. Hence the study was a comparative analysis of Science- based graduates with their modes of entry .in the university and, their academic performance were subjected to comparison in order to ascertain the entry mode that produces graduates with better academic performance.

In that vein, the researchers are curious to establish their own finding, based on the issues on discourse. The researchers were also motivated by the assertion made by proponents of Post-UTME exercise which was evident in (Ajaja, 2010. P.31) "that the exercise will only ensure quality and when the best students are admitted, the results will also be enhanced and reflect in the quality of graduates

produced by Nigerian Universities". Hence the research seeks to find how far these hold true.

Periodic assessment cum analysis of status quo is considered essential in any organization in other to determine if the said is living up to its establishment or not. Post-UTME as an additionally entry mode into Nigeria universities education is currently facing a validation trial in recent time. This is evident in the non-uniformity of the screening exercise among Nigerian universities. Hence, this study tends to provide an empirical proof to that effect.

The purpose of this study was to analyze the academic performance of Science-related graduates admitted with UTME only and those admitted with UTME / Post-UTME in Nnamdi Azikiwe University, Awka. Specifically, the study sought to find out:

1. The academic performance of Computer science graduates in Science-related disciplines admitted through UTME from 2001-2005 and those admitted through UTME/Post-UTME from 2005-2009 as depicted in their FCGPA.
2. The academic performance of Applied Bio-chemistry in Science-related disciplines admitted through UTME from 2001-2005 and those admitted through UTME/Post-UTME from 2005-2009 as depicted in their FCGPA.

The following research questions guided the study.

1. What is the difference in the academic performance of Computer science graduates in Science-related disciplines admitted through UTME from 2001-2005 and those admitted through UTME/Post-UTME from 2005-2009 as depicted in their FCGPA?
2. What is the difference in the academic performance of Applied Bio-chemistry in Science-related disciplines admitted through UTME from 2001-2005 and those admitted through UTME/Post-UTME from 2005-2009 as depicted in their FCGPA?

Hypotheses was tested at 0.05 alpha level

1. There is no significant difference in academic performance of Computer graduates in Science-related disciplines admitted through UTME from 2001-2005 and those admitted through UTME/Post-UTME from 2005-2009 as depicted in their FCGPA.
2. There is no significant difference in academic performance of Applied Bio-chemistry in Science-related disciplines admitted through UTME from 2001-2005 and those admitted through UTME/Post-UTME from 2005-2009 as depicted in the FCGPA.

Methodology

Study was carried out in Nnamdi Azikiwe University, Awka. The study adopted an ex-post facto research design. This design was considered suitable because it made use of students' FCGPA which is original document from already existing records. The population of this study was 35,308. The population consists of all the students admitted and registered in regular programmes from 2001 – 2005 academic sessions through UTME only which amounted to 20,004 and those admitted and registered in regular programmes from 2005 – 2009 academic sessions respectively through UTME / Post-UTME which amounted to 15,304 in Nnamdi Azikiwe University, Awka campus. The study covered eight academic sessions, four years before and four years after the introduction of Post-UTME. The sample size of the study comprised 1928 drawn from science based disciplines following the admission and registration lists of those who were admitted through UTME only and through UTME / Post-UTME respectively. A purposive (judgmental) sampling technique was employed for the study. Two instruments were employed for the purpose of data collection in this study. The instruments are students head count record collected from the office of the Directorate of Academic Planning and Student's Academic Record from the (Registry) Examination Unit, Nnamdi Azikiwe University, Awka.

Instruments were not validated because the two-instrument used for data collection were original records and all information collected from them are from

the original sources and thus adjudged to be correct, authentic and reliable (Borich, 2004). Considering the number of years involved in the study, the researchers solicited the approval of the Registrar, Director of academic planning for the lists of students admitted based on their modes of entry and academic sessions and Deputy-Registrar Examination with the staff of the unit for academic status of the students (FCGPA) admitted through UTME only and those admitted through UTME / Post-UTME respectively. The data collected was analyzed using mean to answer research question. The null hypothesis was tested using z-test at 0.05 level of significance.

Research Question 1: What is the difference in the academic performance of Computer science graduates in Science-related disciplines admitted through UTME from 2001-2005 and those admitted through UTME/Post-UTME from 2005-2009 as depicted in their FCGPA?

Table 1: Sample for Mean

UTME only Computer Sci.		**UTME&PUTME Computer sci.**	
Number	360	Number	126
Sum	893.65	Sum	399.99
Mean	2.482361111	Mean	3.174524
SD	0.690901662	SD	0.706968
Var	0.477345106	Var	0.499804

Analysis on table 1 shows that the mean for 360 Computer Science graduates admitted through UTME only is 2.482361111 and that of 126 Computer Science graduates admitted through UTME/post-UTME is 3.174524. Therefore, the mean difference in academic performance of Computer Science of two modes of entry is 0.692162889. Furthermore, the analysis reveal that the mean scores of Computer Science graduates admitted through UTME/post-UTME is also higher than the Computer Science graduates admitted through UTME only.

Research Question 2: What is the difference in the academic performance of Applied Bio-chemistry in Science-related disciplines admitted through UTME from 2001-2005 and those admitted through UTME/Post-UTME from 2005-2009 as depicted in their FCGPA.

Table 2: Sample for Mean

UTME Applied Bio-chemistry		UTME&PUTME Applied Bio-chemistry	
Number	688	Number	334
Sum	1763.58	Sum	911.73
Mean	2.563343023	Mean	2.729731
SD	0.733868249	SD	0.809625
Var	0.538562607	Var	0.655492

Analysis on table 2 shows that the mean of 688 Applied Bio-chemistry graduates admitted through UTME only is 2.563343023 and that of 334 Applied Bio-chemistry graduates admitted through UTME/post-UTME is 2.729731. Therefore, the mean difference in the academic performance of Applied Bio-chemistry graduates of the two modes of entry is 0.166387977. Furthermore, the analysis reveal that the mean scores of Applied Bio-chemistry graduates admitted through UTME only.

Hypothesis 1: There is no significant difference in academic performance of Computer Science graduates in Science-related disciplines admitted through UTME from 2001-2005 and those admitted through UTME/Post-UTME from 2005-2009 as depicted in their FCGPA.

z-Test: For two Sample for Means.

	UTME only Computer Sci.	***PUTME & UTME Computer Sci.***
Mean	2.482361111	3.17452381
Known Variance	0.477345	0.499804
Observations	360	126
Hypothesized Mean Difference	0	
Z	-9.514179185	
P(Z<=z) one-tail	0	
z Critical one-tail	1.644853627	
P(Z<=z) two-tail	0	
z Critical two-tail	1.959963985	

The analysis on the table 1 reveals significant difference in academic performance, given that z calculated was -9.514179185 while Z critical was

1.959963985 at 0.05 level of significance. Therefore, null hypothesis is rejected thus, there is significant difference in academic performance of Computer Science graduates admitted through UTME/post-UTME from 2005-2009 and those admitted UTME only from 2001-2005. From the analysis it could be deduced that Computer Science graduates admitted through UTME/post-UTME performed better than Computer Sciences graduates admitted through UTME only.

Hypothesis 2: There is no significant difference in academic performance of Applied Bio-chemistry in Science-related disciplines admitted through UTME from 2001-2005 and those admitted through UTME/post-UTME from 2005-2009 as depicted in the FCGPA.

Table 2: z-Test: For two sample Means

	UTME only Applied Bio-chem.	***UTME&PUTME Applied Bio-chem.***
Mean	2.563343023	2.729730539
Known Variance	0.539342	0.655492
Observations	688	334
Hypothesized Mean Difference	0	
Z	-3.174919055	
P(Z<=z) one-tail	0.000749392	
z Critical one-tail	1.644853627	
P(Z<=z) two-tail	0.001498783	
z Critical two-tail	1.959963985	

The analysis on the table 2 reveals significant difference in academic performance, given that z calculated was -3.174919055 while Z critical was 1.959963985 at 0.05 level of significance. Therefore, null hypothesis is rejected thus, there is significant difference in academic performance of Applied Bio-chemistry graduates admitted through UTME/post-UTME from 2005-2009 and those admitted UTME only from 2001-2005. From the analysis it could be deduced that Applied Bio-chemistry graduates admitted through UTME/post-UTME performed better than Applied Bio-chemistry graduates admitted through UTME only.

Discussion of Finding

The findings shows that there was a significant difference in academic performance of Computer Science and Applied Bio-Chemistry graduates in Science-related disciplines admitted through UTME from 2001-2005 and those admitted through UTME/post-UTME from 2005-2009 respectively. The findings revealed that the mean performance scores of Science-related disciplines admitted through UTME/post-UTME were higher than of their counterpart admitted through UTME only. The above findings were continuously in agreement with the assertion made by proponent of post-UTME which was evident in (Ajaja,2010 p.31) in favour of post-UTME and its ability to turn academic performance to the better. These findings were also compatible with the finding of Kolawole *et al*. (2011) which revealed post-UTME screening as a predictor of academic performance of graduates in Science related disciplines in selected Nigeria universities. Similarly, studies of Babatunde (2017); Ifedili and Ifedili (2010); as well as Nwanze (2006) are all in support of post-UTME screening exercise as a mode of entry capable of producing graduates with better academic performance. Their findings revealed post-UTME as a predictor of academic performance over UTME only. Contradictory studies such as Ajaja (2010); Ezema (2006); Evroro (2009); Long (2005); as well as Afu and Ukofia (2017) in their individual studies revealed that there was no significant relationship between modes of entry into the university and students' academic performance.

Conclusion

It is evident from the finding that the Science- related graduates admitted with UTME/post-UTME performed higher than the Science-related graduates admitted from UTME only. Empirically, establishing that the emergences of post-UTME in our educational system is a welcome development, hence should be uphold, for the obvious reason of enhancing students' academic performance since its introduction.

Recommendations

The following recommendations were made;

1. JAMB should continue to conduct external examination for all Nigerian universities while individual universities should be legally allowed to administer internal (post-UTME) examination for their respective universities.
2. Federal government should ensure that both JAMB and post-UTME maintains a non-conflicting position in ensuring that the best students are certified for admission into Nigeria universities.
3. Federal government and National university commission (NUC) should mandate every Nigerian universities to conduct post-UTME screening exercise for its obvious reason of producing graduates with better academic performance.
4. Curriculum expert/planners should work with individual universities to ensure that the content of post-UTME screening test is in line with the admission seekers choice of course.
5. Federal government should reinstate post-UTME as a functional screening exercise for obvious reason of producing graduates with better academic performance.

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