FUND UTILISATION AS DETERMINANTS OF STUDENTS' ACADEMIC PERFORMANCE AMONG PUBLIC UNIVERSITIES IN NIGERIA

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Abstract

Inadequate funding of the Nigeria's public universities had become an unresolved problem in the educational body polity. When the students' enrolment trend is on the increase without a commensurate funding inflow, it portends great dangers particularly for academic performance. The thrust of this paper was to propose effective fund utilisation and enrolment control as determinants of good academic performance among the public universities in Nigeria. The study adopted a descriptive survey design. Twenty-one public universities in Nigeria was selected through stratified random sampling technique from three out of six geo-political zones viz south west, north central and north west. The study participants comprised key university administrator including Bursary, Directors of Academic Planning and Directors of Students Affairs of selected universities. Three instruments: University Funding and Fund Utilisation Inventory, University Enrolment Inventory and University Students Academic Performance Inventory were used for quantitative data collection. Research hypotheses were tested at 0.05 level of significance. Data were analysed using descriptive statistics and Multiple Regression Analysis. Fund utilisation of public universities on academic related matters had a positive but not significant correlation with students academic performance. Direct and indirect academic (β=0.42; t=165; p>0.05) and library and ICT development expenses (β=0.41; t=0.61; p>0.05). The combination of the predictors however, explain 17.6% of the total variance observed in the students academic performance. The linear combination of fund generation, fund utilisation (academic and non-academic matters) and students' enrolment had significant influence on students' academic performance in public universities in Nigeria ($F_{(3,10)}$=15.16, p<0.05). The higher enrolment was noticed among the older Federal Universities when compared with their state-owned counterparts during the period

of study. The students' enrolment in the public universities had significant negative correlation with their students' academic performance (r=0.89, p<0.05). Funding and fund utilisation in isolation do not have significant influence in improving students' academic performance. Students' enrolment is a significant determinant of academic performance, while the linear combination of funding, fund utilisation and enrolment had significant influence on students' academic performance in Nigeria's public universities. Hence, both the Federal and State Governments should always endeavour to put in place regulatory mechanism for optimum students enrolments and effective fund utilisation for academic programmes by educational manager.

Introduction

The rate of growth of the Nigeria's public universities has been phenomenal. The massification of university education had therefore elicited a growing concern about quality of the products. Consequently, the National Universities Commission (NUC) put certain measures in place to ensure that the student enrolment was within limits of the carrying capacity of the institution as dictated by its resources such as staff, teaching support services, laboratories, libraries, equipment and lecture spaces. This was the rationale for the adoption in 1990 of ceilings of 2.5%, 10% and 15% as annual growth rates for the first, second and third generation universities, respectively. This however did not deter the public universities most of which continued to enrol beyond their carrying capacities.

It was for this reason that the policy of annual percentage increases in enrolment was replaced with carrying capacity as the basis for admission quotas in 2005. Universities were thus required to admit within their allocated admission quotas which were based on their available resources. These quotas were maintained at the same level for this next three years before they were reviewed, although only slightly upwards.

Okebukola (2004) noted that there was student population explosion in Federal and State Universities due to over enrolment

without expansion of facilities. The inadequate educational facilities were sequel to insufficient funding which is the cry of all the public universities. The national budget for education in Nigeria had been consistently below 26% percent recommended by the United Nations Educational, Scientific and Cultural Organisation (UNESCO). This had caused inadequate funding of the nation's educational system particularly at the university level and has had negative effects on the mission of university education in terms of teaching, research and community service. Fund determines human and other physical inputs in the educational process. Growing enrolment amidst dwindling financial allocation made effective fund utilisation difficult.

Arikewuyo (2004) reported that since the advent of democracy in 1999, funding of education dropped from 11.12% to 1.81% in 2003. UNESCO (2000) reported that unlike Nigeria which spends an average of 1.1% of its GDP/GNP on education, other countries like Ghana spend 3.6%, Kenya 6.2%, and Zimbabwe 9.5%. The effect of poor funding is evidenced in the dilapidated facilities and brain drain, a phenomenon which has depleted universities in Nigeria seriously. The country has lost most of its experienced academics to even smaller countries such as Ghana, Rwanda, Kenya, South Africa to mention a few. Even when enrolment continues to increase from 235,299 in 1999/2000 session (Okogie, 2004) to 433,821 in 2000/2001 session (FME, 2003), the level of funding has been going down.

State universities appear to be worst hit by poor funding and irregular admission policy. The report of a national study carried out in 2005 using the University Annual Review Meetings (USARM) by the National Universities Commission (NUC) concluded that "over 30 per cent of state-owned universities were starved of funds by their proprietors … grants for payment of staff salaries were acutely short in some cases, compelling the authorities to augment through revenue sources that were unhealthy for the academic life of the institutions.

Nwagwu (2006) noted that the political response to the social demand for university education has led to overcrowded classrooms, double sessions and overstretched teachers and facilities. With political and social instability, economic recession and consequent government inability to adequately supply needed funds, teachers, and infrastructure to cope with the increased students enrolment, the quality of learning outcomes and standard attained by graduating

students have become questionable and of national concern. Researchers (Corcoran, 1988; Glewwe & Kreemer, 2005) had shown that students in overcrowded classrooms do not score as high an achievement tests as students in non-overcrowded classrooms.

Amidst decreasing fund allocation to public universities by their proprietors in the face of competing sectoral fund allocation, it becomes imperative that effective fund utilisation of the available allocated meagre resources in public universities should not be compromised.

Subedi (2003) studied high schools in Nepal and found a significant relationship between student achievement and the availability and utilisation of resources. The study also shows that class size and resources must be positively aligned to impact on student achievement. This finding is important in the sense that the impact of resources within a classroom diminishes as the class size increases. Other studies conducted in Nigeria (Okebukola, 1985; Okunola, 1985; Agusiobo, 1994) indicate that the availability of resources particularly fund, is an important variable in student learning.

A common way to examine utilisation of educational resources (Campbell, 2009) is to analyse school spending i.e. expenditure by an institution on a student per year. For budgeting and planning purposes, institution spending is often divided into recurrent and capital categories. Recurrent expenditure is spending on school inputs that last for one year or less and it is sub- divided into spending on personnel and non-personnel inputs. Capital expenditure refers to spending on school inputs such as buildings and equipment that last for more than one year. School expenditures are important to examine because they generally constitute the bulk of all resources devoted to schooling and they are tractable instruments of education policy. School expenditures are often compared on per -student basis. It should be pointed out that school expenditures do not capture educational spending by households (e.g. school uniform, stationeries) outside the school. They also do not include the indirect cost of schooling (such as forgone productive activities outside the school).

In order to achieve optimal utilisation of resources (which no matter how vast the educational resources might be, will still be referred to as being scarce i.e. limited in supply), the challenge that is facing the educational manager of a university is to find ways of using

the limited educational resources efficiently. Campbell et. al (2009) assert that in education, the central figure is the student, and the information on unit cost will provide insight into the amount of funds to be provided by the proprietor or other financiers of the university. Apart from its use in resource allocation, unit costs are also useful in educational planning, which is a measure that can ensure optimal utilisation of educational resources.

It is noteworthy however, that the unit cost per student in any institution is determined by student enrolment, location of the institution, age of the institution, funding parameter's in use at a particular time and finally the number of accredited programmes (Tsang and Ding, 2005).

The ever-increasing students' enrolment that stretches facilities beyond measure cannot engender effective implementation of various public universities' academic programmes. Scholars (Deaton, 2005; Fabunmi, Peter and Isaiah, 2007) agree that controllable enrolment and moderate class size enhances effective education service delivery.

Statement of the Problem

There is a mounting concern about the quality of public universities in Nigeria by stakeholders. This is because graduate students' academic performance is strongly linked to both human and national development (Aina, 2007). Amidst this anxiety was the annual geometric students' enrolment growth that often occasioned dwindling fund allocation by the governments, the proprietor of public universities. How does educational manager ensures good academic performances in such scenario? A controlled enrolment and efficient fund utilisation parameters are therefore *sine qua non*. It is a planning principle that when resources including fund is efficiently utilised in implementation process, the system, including university educational system will achieve optimum level of productivity/performance. The study is thus designed to investigate the influence of fund utilisation and students' enrolment on students academic performance among the Nigeria's public universities.

Hypotheses

Three hypotheses were formulated to answer the questions posed by this study.

(i)   There is no significant composite and relative influence of academic expenditure (fund utilisation) on students' academic performance among the public universities in Nigeria.

(ii)   There is no significant composite influence of fund generation, fund utilisation and enrolment on students' academic performance in public universities in Nigeria.

(iii)   There is no significant relationship between students' enrolment and students' academic performance among public universities in Nigeria.

Significance of the Study

The study's findings would be a veritable guide to the government and educational planners in the introduction and implementation of funding and fund utilisation policies that would promote effective operations of universities academic programmes. The same research output would promote accountability and sustainable goal attainment in the service delivery of the public universities in Nigeria amidst growing enrolment.

Limitation of the Study

The scope of this work is limited to public (Federal and State) universities in the North West, North Central and South West geo-political zones of Nigeria for economic reasons. The Nigeria's private universities are not included in this study because data and information on funding is relatively difficult to obtain especially from private institutions. In content, this study only analysed the influence of fund utilisation and enrolment on students' academic performance of the public universities in Nigeria. The validity of the instrument adopted however, made the results generalisable for the Nigeria's university system.

Methodology

The study adopted a descriptive survey design. The study population were the 25 federal universities and 19 state universities (as at 2006)

running various academic programmes and were being publicly, funded in Nigeria. The Nigeria's public universities that have been producing graduates since 2000/2001 academic session were considered in the study in order to ensure data comparability. Data for the study were collected through primary (a structured inventory) and secondary sources (documentary search) from the principal officers of the respective universities sampled i.e. the Bursar, the Director of Academic Planning and the Dean/Director of Students Affairs of the sampled universities.

Data Analysis and Results
To quantify responses in testing the three hypotheses in this study, Pearson Product Moment Correlation (PPMC) and Multiple Regression Analysis were used. The interview were analysed quantitatively to supplement the inferential analysis.

Research Hypothesis One
There is no significant composite and relative influence of academic expenditure (fund utilisation) on students' academic performance among the public universities in Nigeria.

Table 1a: Summary of Test of Significant Relationship between Public Universities' Academic Expenditures and their Students' Academic Performance (2001-2006)

R = 0.56 $R_2 = 0.3$ R^2 adj = 0.18					
Model	Squares	Df	Squares	F	Sig
Regression	.093	2	.047	2.393	.137
Residual	.214	11	.019		
Total	.308	13			

Table 1 shows the combined influence of the academic expenditure (salaries and allowances, direct and indirect teaching expenses, library and ICT development, goods and services in academic unit, research and development) on students' academic performance. It has positive correlation with students' academic performance, R= .555.

This shows a positive relationship although a significant relationship was not observed. This implies that universities that spend more money on academics related matter are likely to have improved students' academic performance. However, the null hypothesis 2 is not rejected, meaning that the linear relationship is not significant ($r = .551$, $P>0.05$). Also, the combination of the predictors explains 17.6% of total variance observed in students' academic performance $R_2 = .303$; while R^2 adj $=.176$ which is not statistically significant; $F_{(2,11)} = 2.393$, $P>0.05$. The implication of this result is that variation in students' academic performance is not significantly determined by the academic expenditure of Nigerian universities.

Table 1b: Relative effects of academic expenditure on the outcome of Students' Academic Performance

Model	Unstandardised Coefficients		Standardised Coefficient	T	Sig.
	B	Std. Error	Beta		
Constant)	3.014	.088		34.115	.000
Fund Utilisation on Academic (Direct and Indirect Expenses)	.005	.003	0.42	1.642	.129
Fund Utilisation on Academic (Library and ICT Development)	-.006	.004	-.41	-1.612	.135

a. Dependent Variable: Academic Outcome (CGPA)

From Table 1b, the result shows that direct and indirect teaching expenses contributed most to the prediction of students' academic performance of Nigerian public universities ($\beta=.416$, $t=1.642$; $P>.05$) followed by library and ICT Development ($\beta=-.408$, $t=-1.612$, $P>.05$).

The finding corroborates Adenuga (2002) and Balami (2002) who opine that universities should source funds for financing of their academic trainings for an enhanced skill acquisition by their graduates.

It was also found that there was no significant relative effect of academic expenditure on students' academic performance among the public universities in Nigeria. The study shows that direct teaching and laboratory costs are the most potent contributors to the prediction of outcome of students' academic performance; followed by goods and services and information communication technology. Laboratory facility and information technology centres enhance the growth of globalisation. Globalisation is a phenomenon that reflects the increasing educational interaction among persons and institutions across the globe. Globalization is multidimensional, spanning economic, political, cultural and social activities. Library and information communication have the effect of linking and swinging the world closer in time and space, making possible new ways of generating knowledge doing business and intensifying social interactions.

Research Hypothesis Two
There is no significant composite and relative influence of fund generation, fund utilisation and enrolment on students' academic performance among the public Universities in Nigeria.

Table 2: Summary of regression analysis showing the composite influence of fund generation, fund utilisation and enrolment on Students' Academic Performance (2001-2006)

R = 0 .99 R^2 = 0.98 R^2adj = 0.79					
Model	**Sum of Square**	**Df**	**Mean square**	**F**	**Sig**
Regression	2522.192	10	252.219		
Residual	49.897	3	16.632	15.17	0.00
Total	2572	13	268.9		

The results as shown in Table 2 reveals that the linear combination of fund generation, fund utilisation and enrolment have

significant influence on students' academic performance ($F_{(10,3)}$ = 15.17; $P<0.05$).

The R value of 0.99 shows there is a strong relationship between the independent variables (fund generation, fund utilisation and enrolment) and dependent variable (students' academic performance of public universities in Nigeria) and it is statistically significant. The null hypothesis is therefore rejected.

This implies that the principal determinants of improved students' academic performance are combined input of fund utilisation, fund generation and enrolment.

Table 2b: **Summary of regression analysis showing the relative contributions of fund generation, fund utilisation, and enrolment on students' academic performance**

Model	Unstandardised Coefficients		Standardised Coefficient	T	Sig.
	B	Std. Error	Beta		
(Constant)	377.575	40.264		9.378	.068
Funding Sources					
Grant (Capital)	.156	.512	.108	.304	.812
Grant (Research)	.063	.383	.037	.165	.896
Internal Revenue (Businesses)	.186	.284	.149	.653	.632
Internal Revenue (Donation)	.459	.341	.458	1.345	.407
Fund Utilisation on Academics (Salaries and Allowances)	-.229	.231	-.261	-.991	.503
Fund Utilisation on Academics (Library and ICT Development)	-.214	.559	-.144	-.382	.768
Fund Utilisation on Non-Academics (Principal Officer)	-1.387	.751	-.860	-1.848	.316

Fund Utilisation on Non-Academics (Retirement Expenditure)	-.288	.524	-.178	-.549	.680
	-.212	.422	-.170		.704
Fund Utilisation on Non-Academics (General Administration) Enrolment	.000	.000	-0.12	-.502 -4.63	.135

a. Dependent Variable: Students' Academic Performance

From Table 2b, the results show that enrolment is the most potent contributor to the prediction β = -0.12, P>0.05 though not significant. This means the fewer the enrolment, the better the students' academic performance. The enrolment is followed by a predictor of fund utilisation and generation with β = -0.87, P>0.05; β = 0.46, P>0.05 respectively.

None of the predictors, notably contributed significantly to students' academic performance. Implicit in this result therefore is that those public universities that control their enrolment and utilise its fund on academic matters have improved students' academic performance.

Previous studies (Ajayi, 2007; Babalola, 2008) also established a high correlation between expenditure in education, educational standards, school enrolment ratios and academic outcome. Educational resources (fund generation, fund utilisation and student enrolment ratios) are very vital to the survival and growth of educational institutions. These resources have been found to determine academic outcome of students.

It was also observed that there was significant relative influence of fund generation, fund utilisation and enrolment on students' academic performance. In other words, the linear combination of fund generation, fund utilisation and enrolment have significant influence on students academic performance.

Research Hypothesis Three

HO_1: There is no significant relationship between enrolment and students' academic performance among public universities in Nigeria.

Table 3:   **Correlation between Enrolment and Students' Academic Performance (2001-2006)**

Variable	n	$\bar{x}$	SD	r	Sig. P
Students' Enrolment	14	15,037	10765		
Students Academic Performance	14	3.05	0.19	-0.89	0.000

Table 3 shows that the Pearson Correlation Coefficients (r) of the relationship between enrolment in Nigerian public universities and students' academic performance is -0.89; P<.05. The null hypothesis that states that there is no significant relationship between enrolment and students' academic performance among public universities in Nigeria is therefore rejected. Implicit in this result is that universities that regulate enrolment are likely to produce students with improved academic performance.

This finding corroborates Subedi (2003) who studied higher schools in Nepal and found a significant relationship between student achievement and the availability and utilisation of resources. The study also shows that class size and resources must be positively aligned to impact on student achievement. This finding is important in the sense that the impact of resources within a classroom diminishes as the class size increases. Other studies conducted in Nigeria (Okebukola, 1985; Okunola, 1985; Agusiobo, 1994) indicate that the availability of resources particularly fund, is an important variable in student learning. Implicit in this finding is that public universities must exercise caution on geometric enrolment in order to boost their earning capacity at the expense of good students' academic performance. The university staff interviewed corroborated this viewpoint that geometric enrolment of universities was in most cases to facilitate enhanced Internal Generated Revenue (IGR) and to secure political influence. Available resources must be utilised in such an efficient manner in order to engender quality academic outcome for national interest.

Conclusion

The study analysed the influence of funding and fund utilisation on students' academic performance in public universities in Nigeria. The selected public universities sampled include conventional and specialised federal and state universities with various academic programmes. The political response to the social demand for education in Nigeria has led to increased enrolment in all the public universities without corresponding increase in the infrastructural needs of these universities. This has led to overcrowded classrooms, brain drain of lecturers, overstretched facilities and incessant strikes. With political and social instability, national and global economic downturn, and government's inability to adequately allocate needed funds, lecturers and infrastructure to cope with the increased students enrolments, the quality of students' academic performance and standards attained by the graduating students have become questionable and of national concern. Effective fund utilisation of the allocated meagre resources is thus highly imperative.

Recommendations

Based on the findings of the study, it is recommended that:

Nigerian government is encouraged to make education a national priority by adequately allocating fund to education particularly university education in order to enhance effective students' academic performance for national growth and development. It should strive towards allocating a minimum of 26% of its annual budget as recommended by UNESCO's to education sector for sustainable national growth and development.

The Federal Government in this season of financial reforms of the economy should establish Nigerian Education Bank (NEB) as a developmental financial institution to specifically cater for the educational financing especially of the public universities. Funds could be accessed from the Education Bank for the purpose of rehabilitation, restoration and consolidation of educational infrastructure and facilities and other learning resources in public institutions. Interest payable on such fund should be very minimal because the fund is for national developmental purposes. This idea will enhance transparency and accountability in the utilisation of funds by public educational institutions.

Enhanced autonomy should be granted universities for instance, to enable them raise money from the capital market. At present, they source funds to meet short-term needs from banks at high interest rates.

University authorities are encouraged to efficiently utilise resources available to them majorly for academic purposes in order to enhance students' academic performance. Projects with long gestation period of implementation should be avoided as much as possible for effective utilisation of fund.

University authorities are to be encouraged to minimise the geometric enrolment of students in their various universities to safeguard the students' academic from poor performance. Already, there are reports that graduates from Nigerian universities seeking further studies abroad are either rejected or made to undergo remedial courses at the undergraduate level. Fluctuating government support for Nigerian public universities in an era of rapid enrolment growth makes it imperative to monitor spending per student in order to ensure that minimum standards are being met.

Government should rationalise the number of universities it runs and concentrate on few strategic ones. Government alone can no longer finance university education in view of other emerging and competing socio-economic demands from the polity. The existing public universities could be expanded and adequately funded by their respective owners. It could sell off others to private investors for effectiveness. Many of the great universities in the developed countries are pioneered and driven by private ingenuity and entrepreneurial abilities thus reducing the involvement of government in the running of education to policy formulation. A better performance and proper fund utilisation make the issue of privatisation to be in high demand by education stakeholders in Nigeria. If the government could allow the various public universities to stay, they should be given full autonomy and be allowed to determine the price to be charged.

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