

EFFECTS OF TIME MANAGEMENT ON CLASS SIZE, GLOBAL UTILISATION RATE AND STUDENTS' ACADEMIC PERFORMANCE IN PUBLIC TERTIARY INSTITUTIONS IN LAGOS STATE, NIGERIA

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Abstract

The study investigated the effects of time management on the relationship between class size, global utilisation rate and students' academic performance in public tertiary institutions in Lagos State. The study adopted descriptive research design. Its population was the seven conventional public tertiary institutions and the 4,221 academic staff and 6,6452 students therein as at 2017/2018 academic session. The sample sizes were 1,440 students and 360 academic staff after disproportionately stratifying into faculties/schools and thereafter selecting through the simple random technique. Six instruments were used to collect data after ensuring their validity and establishing reliability coefficients for two of them except for the Record Observations Formats since the data sought were already in existence in the institutions. The 'Time Management Questionnaire for Lecturers (TMQL)' and 'Time Management Questionnaire for Students (TMQS)' were found reliable with 0.749 and 0.743 coefficients respectively using the Cronbach's Alpha test. Three null hypotheses formulated were tested at 0.05 level of significance. One of the findings was that time management has no significant moderating influence on the relationship between class size, global utilisation rate and students' academic performance in public tertiary institutions in Lagos State ($R^2 \Delta = 0.014$, $F_{(1, 55)} = 0.897$, $p = 0.348 > 0.05$); there is no significant

difference in class size, time management and global utilisation rate between federal and state Government tertiary institutions in Lagos State [$t_{(df = 58)} = -1.058; p > 0.05$] and there is a significant difference in class size, time management and global utilisation rate amongst universities, polytechnics and colleges of education in Lagos State (Lambda (3, 56) = 0.532, $p < 0.05$). It was concluded that the relationship between class size, global utilisation rate and students' academic performance was not moderated or influenced by time management. The study recommended that academic staff should be made to strictly adhere to time and day allocated to them on the timetable by the management of their institution.

Keywords: *Time Management, Class Size, Global Utilisation Rate, Students' Academic Performance, Lagos State*

Introduction

In Nigeria, public discussions frequently focus on educational standards by virtue of the interest and concern for annual turnout of Nigerian graduates of tertiary institutions. To the public, the quality of tertiary institution student outcomes does not seem to match the government and parental investments. This observed situation looks worsened by the notion that student enrolment increases without commensurate expansion of schools or provision of adequate facilities in schools (Asiyai, 2012). Yet, the concern for quality of higher education is on the rise in the country, just as higher education institutions have been playing the major role of acquiring and transmitting knowledge. In the same vein, the demand for higher education has risen sharply with the number of potential tertiary institution students increasing six-fold in the last 40 years (United Nations Educational Scientific and Cultural Organisation, UNESCO, 2011).

Meanwhile, quality education is a function of the availability and utilisation of input resources including the teachers and in consonance with the axiom that no education system can rise above the quality of its teachers. Yet, the quality of education could be measured in terms of quality input, quality content, quality process and quality output (Oladipo, Adeosun and Oni, 2008). The teachers, as one of the input resources, are part of the determinants of quality in

education; they constitute a major drive in the production process and in the determination of the output.

Time is the single resource that cannot be changed, cannot be taken back once it is used and no one can control the movement of time but everyone is able to decide how to use it for efficiency and effectiveness. This assertion is in line with the contribution of Argarwal (2008), that time management is usually a problem and if one instinctively knows what the right time is, then there is no need to worry. Also, Gerald, in Adebayo (2015), sees time management as a set of principles, practices, skills, tools and systems that work together to help one get more value out of one's time with the aim of improving the quality of one's life. Lecturers may then be confronted with the problems of being unable to deal with distractions from their students in the classroom, deadline pressure for submission of questions and completion of course outlines, procrastination, ambiguity of personal goals and so on which could lead to inefficiency. Olaniyi (1998) opines that the most important asset a teacher should possess is the skill in managing his/her time. Such a skill would enable the teacher to devote a balanced attention to interpersonal relations and production (Ekundayo, Konwea and Yusuf, 2010).

Lecturers' time must be fully utilised and school buildings should be put to optimum use in order to increase the efficiency of the educational system. In this wise, this study is significant. Findings of the study would contribute to further the understanding of academic staff time management in public tertiary institutions in Lagos State. The study would acquaint educational planners and decision makers with necessary information on improvement of standards in tertiary education in Lagos State vis-a-vis staff utilisation and this will further enhance the degree of efficiency of public tertiary institutions in Lagos State and Nigeria at large. Any positive influence on the effective utilisation of classroom space that may result from this study will likely be of immense use to other public tertiary institutions in the country.

Enrolment patterns remain the most convenient indicator of educational growth. Across the globe, trends in education have reflected significant increase in students' enrolment (Ademola, Ogundipe and Babatunde, 2014). This is evident in Nigeria with an upward trend in school enrolment at all levels of education after the civil war in 1970. However, according to Daniel (2003), Nigeria is

among the countries that fall within the serious risk of not reaching the goals of Education for All (EFA) with a net enrolment ratio of less than 80%. Meanwhile, Nigeria, like most of the developed and developing countries across the globe, has adopted and implemented to a large extent the Education For All (EFA) policy of the United Nations (UN) which has in no small measure resulted in increased student population at all levels of education. The increased number in enrolment has, however, led to other educational challenges which piqued the interest of educational planners, this is crux of the study, particularly when this increased number is juxtaposed with students' academic performance (Ikolo, 2011).

Mokobia and Okoye (2011) highlight that educators universally identify class size as a desirable attribute of the educational system, and this has become a subject of interest, concern, discussion and debate among educational stakeholders such as academics, parents and policy makers albeit over the educational consequences of class sizes. Adeyemi (2008) refers to class size, as an educational tool that can be used to describe the average number of students per class in a school. In the words of Ikolo (2011), class size equally means a group which is a set of persons among whom there exists a definable or observable set of relations. The word group, then, can refer not only to a set of persons but to a place where the interaction occurs. Yet, Jacob, Olawuyi and Jacob (2015) note that class size has become a phenomenon often mentioned in the educational literature as an influence on students' socializing pattern and academic performance, on quality of instruction, administration and school budgets. Jacob *et al* (2015) add that class size is an administrative decision over which lecturers have little or no control. Separately, Kedney, in Jacob, Olawuyi and Jacob (2015) describes class size as a tool that can be used to measure performance of the education system. In addition, Imoke (2006) remarks that optimum class size in a school system implies rational coordination of educational infrastructure, subject to available number of students in order to attain high level of productivity. Ogunyemi and Hassan (2011) maintain that a large class size can be counterproductive.

Academic performance is the product of schooling, that is, the extent to which a student, lecturer and an institution have achieved their educational goals. According to Adu, Ojelabi and Adeyanju (2009),

academic performance can simply be viewed as an outcome of all academic tasks or rigours of a person which could be poorly or successfully stated. It cannot be gingered in students if they are discouraged (Ijaduola, 2008). Lecturers are expected to meaningfully contribute to students' academic performance. A weighty academic performance of a student is sometimes attributed to higher teachers' efficiency. Academic performance seems to increase when time management skills are well-handled. Time management is a skill that perhaps impacts the students' academic performance.

Educational facilities constitute a controlled environment which facilitates the teaching-learning process while protecting the physical well-being of the students (Olaniyonu and Gbenu, 2010). Educational facilities also constitute input into the educational system that determines largely the implementation of educational programmes and invariably achieving objectives of the education industry; the utilisation of these facilities can therefore be analysed through time and space utilisation rates, commonly termed Global Utilisation Rate. Most schools' facilities seem often underutilised. The rate of utilisation could be increased either by extending the utilisation time or by allowing access to the school equipment generally and sport equipment by the community specifically.

The Council for Educational Facility Planners (1976), UNESCO (1984; 1985) and the British Department of Education and Science (BDES) (1992) list timetabling and space allocation, educational structure, content and methods of delivery, educational programme being offered and student enrolment as major factors that influence teaching space utilisation in institutions. UNESCO (1985) report went further to state that educational policies on funding, provision of infrastructure like teaching space, hiring and maintenance of human resources, norm on students to lecturer ratio and accepted ergonomic standards also influence space utilisation but classified these as non-academic factors (Quansah, 2015). Rogers, as cited by Quansah (2015), argues that both academic and non-academic factors do influence time and space utilisation rates, whose product is the Global Utilisation Rate.

Meanwhile, a keen observation by the researcher shows that public tertiary institutions, particularly in Lagos State are fast becoming institutions of preference and seem to remain largely populated. For instance, the growth rate of enrolment in some

courses in University of Lagos and Lagos State University between 2010/2011 and 2013/2014 academic sessions are 7%, 4.4%, 5.7% and 2.1% respectively and -16.4%, -12.3%, 0.9% and -52.3% respectively. In Yaba College of Technology and Lagos State Polytechnic between 2011/2012 and 2015/2016 academic sessions, the enrolment trends are 28%, 8.4%, 4.1% and 3.1% respectively and -28.7%, 22.2%, 34% and 25.8% respectively. Also, in Federal College of Education (Technical) Akoka and Adeniran Ogunsanya College of Education, the enrolment trends between 2011/2012 and 2014/2015 academic sessions are 42.7%, 16.7% and -37.5% respectively and 11.3%, 63.9% and -18.2% respectively. This implies that enrolment may continue rising geometrically in public tertiary institutions in the State leading to overstretching of the available teaching facilities. This situation could have a lot of implications for the students on their academic performance, a matter that readily and regularly requires the attention of educational planners and researchers. It is against this background, therefore, that the study investigates the effects of time management on the relationship between class size, global utilisation rate and students' academic performance in public tertiary institutions in Lagos State. To this end, the specific objectives of the study are;

- i. to establish the moderating influence of time management on the relationship between class size, global utilisation rate and students' academic performance in public tertiary institutions in Lagos State
- ii. to find out the relationship between global utilisation rate and students' academic performance in public tertiary institutions in Lagos State.
- iii. to examine the relationship between class size, global utilisation rate and students' academic performance in public tertiary institutions in Lagos State.

Hypotheses

The following hypotheses were formulated and tested in the study.

- H₀1:** Time management has no significant moderating effect on the relationship between class size, global utilisation rate and students' academic performance in public tertiary institutions in Lagos State.

H₀₂: There is no significant difference in class size, time management and global utilisation rate between federal and state Government tertiary institutions in Lagos State.

H₀₃: There is no significant difference in class size, time management and global utilisation rate amongst universities, polytechnics and colleges of education in Lagos State.

Methodology

The research design adopted for the study was descriptive design. This is because, the study made a description of the moderating effect of time management on the relationship between class size, time management and students' academic performance in public tertiary institutions in Lagos State. The study is also an *ex-post facto* research having made use of already existing data to determine the after-the-effect of the independent variables on the dependent variable. The population of the study comprised all the seven conventional public tertiary institutions and their academic staff and students in Lagos State. The public institutions are: University of Lagos, Akoka-Yaba, Lagos State University, Ojo, Yaba College of Technology, Akoka-Yaba, Lagos State Polytechnic, Ikorodu, Adeniran Ogunsanya College of Education, Oto-Ijanikin, Federal College of Education (Technical), Akoka-Yaba and Michael Otedola College of Primary Education, Noforija-Epe.

The sample of the study consisted of six institutions that were selected from the population of public tertiary institutions in Lagos State. Thus, one Federal and one State Government tertiary institution in each category of tertiary institutions were chosen. Between the two State owned Colleges of Education, the simple random sampling technique was used to select one College of Education and this enabled the two Colleges of Education to have equal chance of being part of the study sample. Subsequently, Adeniran Ogunsanya College of Education, Oto-Ijanikin was chosen. A multistage sampling procedure was used to select Departments from each sampled public tertiary institution. This enabled every Faculty/College/School and Department to have the chance of being selected. A disproportionate stratified sampling technique was used to select four Faculties/Colleges/Schools from each sampled institution and, in each selected Faculty/College/School, three Departments were selected using simple random sampling technique

giving a total of 12 Departments per each sampled institution. A sample of 20 students and five academic staff was randomly selected from each of the sampled Departments, the students were selected from NCE III, HND II and 400 level of a College, a Polytechnic and a University respectively being in the final year of their programmes and due to the level of their exposure to the utilisation of teaching space and the time for using the available teaching spaces in their respective institutions. In total, the sample of this study was 1800 participants which comprised 1440 students and 360 academic staff from the public tertiary institutions in Lagos State.

Data were gathered through primary and secondary sources, that is, questionnaires and observation formats. Two categories of research instruments were used to collect data for the study. Firstly was a self-designed instrument titled "Time Management Questionnaire for Lecturers and Time Management Questionnaire for Students" and tagged TMQL and TMQS respectively. The questionnaire consists of two sections: A and B. Section A contained items on personal information of the respondents who in this case are academic staff and students. Section B solicited information from the respondents on time management at their various institutions. A Four-point Likert-scale response mode type was used. The following corresponding scores were adopted as rating scale for the responses: Very True (VT) – 4; True (T) – 3; Untrue (U) – 2 and Very Untrue (VU) - 1.

Secondly, four different Records Observation Formats I, II, III and IV were used to collect data from the selected tertiary institutions for the study. Records Observation Format I was used to collect number of registered students for the stipulated academic years which represented class size and Format II for Students results of 2007/2008 to 2016/2017 academic session, which represented students' academic performance; Format III contained items on the designed capacity of the teaching spaces which was also used to collect information on theoretical capacity of the room (that is, average number of seats in the classroom); and Format IV was used to collect information on theoretical number of hours (that is, the official number of hours in which a classroom is put into use).

The questionnaires and the records observation formats were constructed by the researcher with the assistance of experts in the field of Measurement and Evaluation and Lecturers in the Department of

Educational Management, Lagos State University (LASU). Hence, this ensured both content, construct and face validity. The test (examination) results collected to measure academic performance of students using the Format II from the various tertiary institutions sampled was a valid one considering that Universities Senate and Academic Boards of Colleges of Education and Polytechnics moderated and standardized instruments. Cronbach's Alpha Coefficient Analysis was used to determine the reliability of these Time Management Questionnaire for Students (TMQS) and Time Management Questionnaire for Lecturers (TMQL). The coefficients obtained were 0.743 and 0.749 respectively.

Data collected were analysed using inferential statistics of Hierarchical Multiple Regression, Independent t-test and Multivariate Analysis of Variance. The hypotheses formulated were tested at 0.05 level of significance with the aid of Statistical Package for Social Sciences (SPSS) 20.0 version.

Findings and Discussion

Hypothesis One: Time management has no significant moderating effect on the relationship between class size, global utilisation rate, and students' academic performance in public tertiary institutions in Lagos State.

Table 1: Summary of Hierarchical Multiple Regression Analysis of Moderation Effect of Time Management on the Relationship between Class Size, Global Utilisation Rate and Students' Academic Performance in Public Tertiary Institutions in Lagos State

Model Summary Hierarchical Multiple Regression

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	0.338 ^a	0.114	0.083	0.25534	0.114	3.670	2	57	0.032
2	0.343 ^b	0.117	0.070	0.25711	0.003	0.214	1	56	0.645
3	0.363 ^c	0.132	0.068	0.25735	0.014	0.897	1	55	0.348

a. Predictors: (Constant), Global Utilisation Rate, Class Size

b. Predictors: (Constant), Global Utilisation Rate, Class Size, Time Management

c. Predictors: (Constant), Global Utilisation Rate, Class Size, Time Management, TMAxCSxGUR

Table 2: ANOVA of Hierarchical Multiple Linear Regression Analysis

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.479	2	.239	3.670	.032 ^b
	Residual	3.716	57	.065		
	Total	4.195	59			
2	Regression	.493	3	.164	2.484	.070 ^c
	Residual	3.702	56	.066		
	Total	4.195	59			
3	Regression	.552	4	.138	2.084	.095 ^d
	Residual	3.643	55	.066		
	Total	4.195	59			

a. Dependent Variable: Students Academic Performance

b. Predictors: (Constant), Global Utilisation Rate, Class Size

c. Predictors: (Constant), Global Utilisation Rate, Class Size, Time Management

d. Predictors: (Constant), Global Utilisation Rate, Class Size, Time Management, TMxCSxGUR

Table 3: Coefficients of Hierarchical Multiple Linear Regression Analysis

Model		Unstandardized Coefficients		Standardized Coefficients Beta	T	Sig.
		B	Std. Error			
1	(Constant)	2.640	.076		34.875	.000
	Class Size	.000	.000	-.329	-2.640	.011
	Global Utilisation Rate	-.019	.038	-.063	-.505	.615
2	(Constant)	2.788	.330		8.458	.000
	Class Size	.000	.000	-.330	-2.630	.011
	Global Utilisation Rate	-.016	.039	-.051	-.399	.691
	Time Management	-.060	.129	-.059	-.463	.645
3	(Constant)	2.684	.348		7.718	.000
	Class Size	.000	.000	-.114	-.435	.665
	Global Utilisation Rate	.022	.056	.070	.388	.700
	Time Management	-.042	.131	-.041	-.319	.751
	TMxCSxGUR	-7.341E-005	.000	-.281	-.947	.348

a. Dependent Variable: Students Academic Performance

The findings for step one (model one) revealed that class size ($\beta = -0.329$, $t = -2.640$, $p = 0.011 < 0.05$) has statistically significant influence on students' academic performance, while global utilisation rate ($\beta = -0.063$, $t = -0.505$, $p = 0.615 > 0.05$) did not have significant influence on students' academic performance accounting for 11.4 percent ($R^2 = 0.114$, $F = 3.670$, $p = 0.032 < 0.05$). The results implied that a unit change in class size results in 0.329 negative change (reduction) in students' academic performance in public tertiary institutions in Lagos State while a unit change in global utilisation rate also led to 0.063 negative

change (reduction) in students' academic performance in public tertiary institutions in Lagos State.

In the second step (model 2), the influence of class size, global utilisation rate and time management were evaluated. The findings revealed that class size ($\beta = -0.330$, $t = -2.630$, $p = 0.011 < 0.05$) has statistically significant influence on students' academic performance, while global utilisation rate ($\beta = -0.051$, $t = -0.399$, $p = 0.691 > 0.05$), and time management ($\beta = -0.059$, $t = -0.463$, $p = 0.645 > 0.05$) independently did not have statistically significant influence on student academic performance accounting for 11.7 percent ($R^2 = 0.117$, $F = 2.484$, $p = 0.070 > 0.05$). This implied that a unit change in class size will result in 0.330 negative change (reduction) in students' academic performance in public tertiary institutions in Lagos State, while a unit change in global utilisation rate led to 0.051 negative change (reduction) in students' academic performance in public tertiary institutions in Lagos State, and a unit change in time management will lead to 0.059 change (reduction) in students' academic performance in public tertiary institutions in Lagos State. The R^2 change is 0.003 and F change of 0.214 with $p > 0.05$. This implied that the model was not valid and stable for predicting students' academic performance.

In the third step (model three), an interaction term was introduced in the equation and its significance was evaluated while controlling for the two independent variables. The interaction term was computed as the product of the standardize score of time management, global utilisation rate and class size. The effect of the interaction term was not statistically significant ($\beta = -0.281$, $t = -0.947$, $p = 0.348 > 0.05$). The result indicated that the R^2 change was positive ($\Delta R^2 = 0.014$) but not statistically significant ($p > 0.05$). This was also represented by F change from 0.214 to 0.897 but was not significant with a p -value of 0.348. The non-significant interaction of time management indicated that time management did not moderate the relationship between global utilisation rate, class size, and student' academic performance. However, the influence of the interaction term was negative implying that the interaction of the variables resulted in a negative change in students' academic performance in public tertiary institutions in Lagos State. Furthermore, upon moderation, global utilisation rate ($\beta = 0.070$, $t = 0.388$, $p = 0.700$) and class size ($\beta = -0.114$, $t = -0.435$, $p = 0.665 > 0.05$) did not have significant influence on

students' academic performance. The findings also showed that global utilisation rate and class size respectively still affect students' academic performance positively and negatively. The established structured relationship is presented in the following equation:

$$SAP = 2.684 - 0.114CS + 0.070GUR - 0.041TM - 0.281TM \times CS \times GUR$$

Where: SAP = Students' Academic Performance

CS = Class size

TM = Time Management

GUR = Global Utilisation Rate

The model shows that time management has no statistically significant moderating effect on the relationship between class size, global utilisation rate, and students' academic performance in Public tertiary institutions in Lagos State. Based on this finding the null hypothesis that states that time management has no significant moderating influence on the relationship between class size, global utilisation rate, and students' academic performance in public tertiary institutions in Lagos State is not rejected.

Hypothesis Two: There is no significant difference in class size, time management and global utilisation rate between federal and state Government tertiary institutions in Lagos State.

Table 4: Descriptive Statistics of significant difference in class size, time management and global utilisation rate between Federal and State Government tertiary institutions in Lagos State

	Nomenclature	N	Mean	Std. Deviation	Std. Error Mean
Time Management	Federal Universities	30	2.5333	.27865	.05087
	State Universities	30	2.6053	.24755	.04520
Global Utilisation Rate	Federal Universities	30	1.5667	.85836	.15671
	State Universities	30	1.6333	.88992	.16248

Class Size	Federal Universities	30	125.8670	75.38153	13.76272
	State Universities	30	246.2723	249.86322	45.61857

Table 5: Independent t-statistics of significant difference in class size, time management and global utilisation rate between Federal and State Government tertiary institutions in Lagos State

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence interval of the Difference Lower Upper	
Time Management	Equal variances assumed	.489	.487	1.058	58	.294	-.07201	.06805	-.20823	.05421
	Equal variances not assumed			1.058	57.206	.294	-.07201	.06805	-.20827	.05425
Global Utilisation Rate	Equal variances assumed	.240	.626	-.295	58	.769	-.06667	.22574	-.51853	.33520
	Equal variances not assumed			-.295	57.925	.769	-.06667	.22574	-.51854	.33521
Class Size	Equal variances assumed	82.135	.000	2.527	58	.014	120.40524	47.64942	215.78591	25.02457
	Equal variances not assumed			2.527	34.236	.016	120.40524	47.64942	217.21596	23.53452

The results on table 5 showed that there is no significant difference in class size, time management and global utilisation rate between federal and state Government tertiary institutions in Lagos State [$t_{(df = 58)} = -1.058$; $p > 0.05$]. The mean difference was not significant at 0.05 level. The mean values indicated that, significantly, class size, time management and global utilisation rate were not different between

federal and state Government tertiary institutions. Therefore, null hypothesis which states that there is no significant difference in class size, time management and global utilisation rate between federal and state Government tertiary institutions in Lagos State, is not rejected. The implication is that class size, time management and global utilisation rate are not significantly different between Federal and State Government tertiary institutions in Lagos State.

Hypothesis Three: There is no significant difference in class size, time management and global utilisation amongst universities, polytechnics and colleges of education in Lagos State.

Table 6: Multivariate test of significant difference in class size, time management and global utilisation rate amongst Universities, Polytechnics and Colleges of Education in Lagos State Multivariate Tests^a

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.987	1449.401 ^b	3.000	56.000	.000
	Wilks' Lambda	.013	1449.401 ^b	3.000	56.000	.000
	Hotelling's Trace	77.646	1449.401 ^b	3.000	56.000	.000
	Roy's Largest Root	77.646	1449.401 ^b	3.000	56.000	.000
	Pillai's Trace	.468	16.403 ^b	3.000	56.000	.000
Nomenclature (type)	Wilks' Lambda	.532	16.403 ^b	3.000	56.000	.000
	Hotelling's Trace	.879	16.403 ^b	3.000	56.000	.000
	Roy's Largest Root	.879	16.403 ^b	3.000	56.000	.000

a. Design: Intercept + Nomenclature (type)

b. Exact statistic

Table 7: Tests of between-subjects effects of significant difference in class size, time management and global utilisation rate amongst Universities, Polytechnics and Colleges of Education in Lagos State Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	Time management	.548 ^a	1	.548	6.442	.014
	Class Size	843131.573 ^b	1	843131.573	36.233	.000
	Global Utilisation Rate	.033 ^c	1	.033	.043	.836
Intercept	Time management	373.005	1	373.005	4381.542	.000
	Class Size	2772006.827	1	2772006.827	119.126	.000
	Global Utilisation Rate	132.300	1	132.300	172.242	.000
Nomenclature	Time management	.548	1	.548	6.442	.014
	Class Size	843131.573	1	843131.573	36.233	.000
	Global Utilisation Rate	.033	1	.033	.043	.836
Error	Time management	4.938	58	.085		
	Class Size	1349635.892	58	23269.584		
	Global Utilisation Rate	44.550	58	.768		
Total	Time management	435.913	60			
	Class Size	4270082.036	60			
	Global Utilisation Rate	195.000	60			
Corrected Total	Time management	5.486	59			
	Class Size	2192767.465	59			
	Global Utilisation Rate	44.583	59			

a. R Squared = .100 (Adjusted R Squared = .084)

b. R Squared = .385 (Adjusted R Squared = .374)

c. R Squared = .001 (Adjusted R Squared = -.016)

The result of multivariate analysis of variance of the difference in class size, time management and global utilisation rate amongst universities, polytechnics and colleges of education in Lagos State was presented on tables 6 and 7. The results on Table 6 explained whether universities, polytechnics and colleges of education in Lagos State have differences in any of the class size, time management and global utilisation rate. Four different types of multivariate test results are shown and the most widely used is Wilks' Lambda. Thus, the answer for the MANOVA is a Lambda of 0.532, with 3 and 56 degrees of freedom. That value is significant. Table 7 gave the results of the univariate tests (ANOVAs) for each of class size, time management and global utilisation rate. A one-way MANOVA was calculated examining the difference in class size, time management and global utilisation amongst universities, polytechnics and colleges of education in Lagos State. Significant difference is found (Lambda (3, 56) = 0.532, $p < 0.05$). Class size, time management, global utilisation rate were significantly influenced by institution nomenclature (type).

Discussion

The present study revealed that time management had no significant moderating influence on the relationship between class size, global utilisation rate and students' academic performance in public tertiary institutions in Lagos State. According to Brint and Cantwell (2006), cited in Akinyemi (2020), there was no direct correlation found between engaging in campus life activities and increased educational benefits. The finding lends credence to that of Yusuf and Akinniranye (2011) who reported that organisational difficulties of the timetabling often make it difficult for schools to attain utilisation rate of over 75%. The rate reached varies to type of rooms and size of schools. In contrast with the result, Armitage Marschke and Plummer (2008) found that instructional time significantly affects students' academic performance.

The study discovered that there was no significant difference in class size, time management and global utilisation rate between federal and state Government tertiary institutions in Lagos State. Thus, class size, time and global utilisation rate are no respecter of institutions. In both Federal and State owned institutions, enrolment exceeds provision for tertiary education in terms of adequate furnished classrooms. Hence, the perennial problem of classroom congestion. It

was observed by the author that most of the public tertiary institutions in Nigeria, Lagos State in particular, experience classroom congestion, low student-classroom-space, underutilisation of time and high space utilisation rate. These situations, however, may not have affected students' academic performance adversely in Lagos State.

The study discovered also that there was a significant difference in class size, time management and global utilisation rate amongst universities, polytechnics and colleges of education in Lagos State. Hence, class size, time management and global utilisation rate differ by institutions nomenclature (type). It is also observed the author that enrolment exceeds provision of teaching resources in universities and colleges of education than polytechnics in public tertiary institutions in Nigeria, particularly in Lagos State and these disparities seem to be as a result of discrimination in the qualification obtained by the graduates of the tertiary institutions.

Conclusion

It can be concluded that the relationship between class size, global utilisation rate and students' academic performance is not moderated or influenced by time management. It can also be concluded from the study that the proprietorship of a public tertiary institution, federal or state government, does not make a difference in class size, time management and global utilisation rate. Meanwhile, it can be concluded that the institution's nomenclature (type), universities, polytechnics and colleges of education do make a difference in class size, time management and global utilisation rate.

Recommendations

Based on the findings of this study, the following recommendations are hereby made:

- i. The low utilisation on Fridays and during the evening sessions for the lecture rooms should be reduced by evenly spreading of teaching load throughout days of the week and the periods of the day. This means academic staff must be implored to stick to the dictates of the timetable so as to avoid congestions in the morning. There should be a policy to prevent academic staff from preferring certain specific times of the day and days of the

- week. Thus, academic staff should be made to strictly adhere to time and day allocated to them on the timetable.
- ii. Policy makers such as National Universities Commission (NUC), National Board for Technical Education (NBTE) and National Commission for Colleges of Education (NCCE) should formulate and ensure implementation of the policies in relation to specific number of students in the classrooms and the required dimension of the classroom in tertiary institutions.
 - iii. The management of institutions should always consider the seating capacity of the existing teaching space/facilities to ensure this matches the number of students eventually admitted.
 - iv. Government should, through the Federal and State Ministries of Education, ensure optimum class size in the tertiary institutions, that is, ensuring rational coordination of educational infrastructure, subject to available number of students in order to attain high level of productivity since the issue of large class size could be counterproductive.
 - v. Government should endeavour to build more classrooms and make more adequate provision for infrastructure especially in state owned institutions to help put overcrowding under check as this will further improve effective classroom utilisation for better teaching and learning in these schools.

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