Infrastructure and Students' Perceived Motivation to Learning in Universities in South-Western Nigeria

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Abstract

The university world-wide is the highest level of human capital development, those whose training and development depends largely on the quality and quantity of the available infrastructure. This study examined the situation of infrastructure in the universities in South-West Nigeria, how it affected the students' perceived motivation to learning and attempted at determining students' preferred areas of satisfaction with the available infrastructure. The universities with different characteristics such as curriculum focus, year of establishment, ownership and residential statuses were used. A descriptive survey research design was adopted for use with the final year students as targeted population. A total of 800 students from three faculties and a college constituted the sample frame while the instruments were the Students' Infrastructure Assessment Questionnaire (SINFAQ), Students' Perceived Motivation to Learning (SPMOTOL-Q) and Observation/Interview Schedule (OBIS). Based on the major findings of the study, some suggestions to enhance the successful realization of goals of university education such as provision of adequate and quality infrastructure needed to serve the students educational needs among others were made.

Introduction

The entire intellectual and professional life of a country depends on sound university education. Universities are unlike other educational institutions in the sense that they have bonds of loyalty not only to the country, which supports them but also to the international company of universities all over the world. The university is at the apex of the educational system and the highest level of human capital development. The goals of tertiary education in Nigeria according to the National Policy on Education (2004) shall be to:

i.   contribute to national development through high level relevant manpower training;

ii. develop and inculcate proper values for the survival of the individual's society;

iii.   develop the intellectual capability of individuals to understand and appreciate their local and external environments;

iv.   acquire both physical and intellectual skills which will enable individuals to be self-reliant and useful members of the society;

v.   promote and encourage scholarship and community service;

vi.   forge and cement national unity and

vii.   promote national and international understanding and interaction.

As Maduewesi, Ezeanya, and Gwandu (2005) claim, an analysis of the seven goals of tertiary education in Nigeria suggests that only three can be regarded as exclusive to this level. The three pertinent goals are:

(i)   to contribute to national development through high level relevant manpower training;

(ii)   to promote and encourage scholarship and community service; and

(iii)   to develop and inculcate proper values for the survival of the individual and society.

The other four goals are considered peripheral because they can be shared by the other levels of education - primary and secondary. Consequently, universities in Nigeria are established essentially to advance knowledge, wisdom and understanding. This is done through teaching and research and the ultimate purpose is rendering of services to the community apart from information dissemination. It however leaves much to desire about the state of infrastructure under which the laudable set objectives are meant to be achieved.

According to Ehiametalor (2001), infrastructure is the operational inputs of every instructional programme and constitutes elements that are necessary for teaching and learning. Such include buildings, laboratories, machinery, furniture and electrical fixtures. In specific terms, Bosah (1997) identified the following as components of infrastructure: landscape;, playgrounds;

buildings - classrooms, library, laboratory blocks, hostels, toilets, health block, administrative blocks etc.; utilities such as electricity, pipe-borne water; and security facilities - walls (fences), gates, phones, and alarm system. Indisputably, these are very important in the development of qualitative education.

Coombs (1991) emphasizes that educational system is a function of the quantity and quality of inputs, of significance, uenc

Apart from the views of other authors mentioned above, infrastructure can be viewed as the totality of all that goes into education such as classrooms, lecture theatres, laboratories, libraries, electricity, water, health centre, sports and recreation centres, ICT, machines and furniture put there-in, with the soul intention of facilitating teaching-learning process in order to achieve the purpose for which an educational institution is established.

Statement of the Problem

Today in Nigeria, anxieties in education are stirred by the combined effects' of population explosion in the classrooms, deteriorating infrastructure, continued inadequate funding as well as other devastating comments by most people who themselves benefited from the university education in the 1980s holding the believe that students today are doing more worse than in the past. Their judgements are based on comparison of present students' level in their course of study and their examination results in particular, to what they

and college hence, a total of 800 final year students comprised the final sample for the study. The multi-stage, stratified and random sampling techniques were used to select the students* sample. In the study were a total of 417 male and 383 female participants respectively.

A research instrument tagged Students' Infrastructure Assessment Questionnaire (SINFAQ), a 57 item questionnaire was developed by the researcher and administered on students in order to assess the infrastructure available in their respective universities. The instrument has six sub-sections that sought information on buildings and furniture, laboratories/workshops, libraries, toilet facilities, electricity and water supply and students rating scale. Another instrument tagged Students Perceived Motivation to Learning Questionnaire (SPMOTOL-Q); a 30 item questionnaire was used. Also, the Observation/Interview Schedule, an instrument developed to make on-the-spot assessment of the infrastructure and welfare services available in each of the university. This was to corroborate the information obtained using the students' questionnaire.

Findings

Hypothesis One: There is no significant relationship between infrastructure and students' perceived motivation to learning. To test this hypothesis, the respondents' responses on sections B1, B2, B3, B4, B5 and D1 of the questionnaire were computed into means (X) and standard deviation (SD). Thereafter, Pearson Product Moment Correlation statistical procedure was employed to determine whether there is significant relationship between infrastructure and students' perceived motivation to learn. The results are presented in table 1.

Table 1: **Relationship between Infrastructure and Students' Perceived Motivation to Learning.**

Variables	N	$\overline{X}$	SD	Df	r-cal	r-critical
Infrastructure		68.05	8.21			
	800			798	0.654*	.062
Students' Perceived Motivation to Learn		66.73	7.96			

Significant; df = 798; P< .05

Table 1 shows a higher mean (X) score of 68.05 with standard deviation (SD) of 8.21 for infrastructure when compared with the lower mean (X) score of 66.73 and standard deviation (SD) of 7.96 obtained for students' perceived motivation to learn. This means that there exists

statistically significant relationship between infrastructure and students' perceived motivation to learn. The result of the Pearson Product Moment Correlation Co-efficient statistic shows that the calculated r-value of 0.654 is significant since it is greater than the critical r-value of .062 given 798 degrees of freedom at 0.05 level of significance. Consequently, the null hypothesis is rejected while the alternative hypothesis is accepted. This implies that there is a significant relationship between infrastructure and students' perceived motivation to learn.

Hypothesis Two: There is no significant difference between male and female students' perceived motivation to learn in universities.

To test this hypothesis, students' responses on students' data in Section A of the questionnaire was used to categorized them into male and female accordingly. Thereafter, the mean and standard deviation of each group in item nos. 1-30 of section D of the questionnaire measuring students' perceived motivation to learn were computed before using isd tomte percei0 Tc(n) Tj1.139 Tw522.07

Variables	N	$\overline{X}$	sd	Df	t-cal	t-critical
Male Students	417	46.00	4.52		0.67	
Female Students	383	45.78	4.69	798		1.646

N.S. – Not significant; df – 798; P > .05

hypothesis is rejected. This implies that there is no significant difference between male and female students' perceived motivation to learn in universities.

Hypothesis Three: There is no significant difference in the students' perceived motivation to learning in Federal and State Universities as regards the available infrastructure. To test this hypothesis, the students' responses on students' data in Section A of the questionnaire was used to categorize them into Federal and State universities respectively while each category was further classified according to three levels of differential perception of the universities' available infrastructure based on their responses on Section B of the questionnaire. Thereafter, the mean (X) scores and standard deviation of each group on item numbers 1 - 30 of Section D of questionnaire measuring motivation to learning was used before using Two-Way Analysis of Variance $(2 \times 2$ ANOVA$)$ to determine whether significant difference in motivation to learn due to perception of universities' infrastructure exist: The results of the analysis are presented in table 3.

Table 3:   *Students' Perceived Motivation to Learning due to Difference in Universities' available Infrastructure.*

Perceived Motivation To Learning in Universities		N	$\overline{X}$	SD
Federal University	Low	67	22.09	4.52
	Moderate	108	21.54	4.03
	High	125	23.80	4.69
State University	Low	115	22.03	4.49
	Moderate	167	22.26	5.48
	High	218	23.75	4.41

Sources of Variance	Sum of Squares	Degrees of Freedom	Means of Squares	F – ratio	F- critical
Motivation to learning	18.7	1	18.7	4.43	3.85
Infrastructure	26.9	2	13.45	3.19	3.00
Motivation/ Infrastructure	12.5	2	6.25	1.48	3.00
Within Group	3352.3	794	4.22		
Total	3410.4	799			

* Significant at 0.05; df 1, 2 (794); critical F = 3.85, 3.00

Table 3 shows that amongst students from Federal Universities, students with high level of motivation manifest a higher mean ($\overline{X}$) scores of 23.80; SD = 4.69, followed by students with low level of motivation exhibiting slightly higher mean ($\overline{X}$) scores of 22.09; SD = 4.52, than the students with moderate level of motivation with the mean ($\overline{X}$) scores of 21.54; and SD = 4.03. Also, from amongst students in State Universities, students with high level of motivation exhibited a higher mean ($\overline{X}$) scores of 23.75 and SD = 4.41 than the students with moderate and low level of motivation who had exhibited slightly different mean ($\overline{X}$) scores of 22.26; SD = 5.48, and 22.03; SD = 4.49 respectively. Thus, we can infer that there exists statistically significant difference in the students' perceived motivation to learn among students in Federal and State Universities due to the available infrastructure. Two-Way Analysis of Variance was used to determine thereafter whether these means ($\overline{X}$) scores were significantly different.

The results of Two-Way Analysis of Variance (2×2 ANOVA) indicate that the calculated F-ratio of 4.43 is higher than the critical F-value of 3.85 given 1 and 794 degrees of freedom at 0.05 level of significance. This result is significant.

On the effect of students' perceived motivation to learn due to the available infrastructure in both universities, it was found that a calculated F-value of 3.19 resulted from the analysis. This calculated F-value (ratio) was significant since it is higher than the critical F- value of 3.00 given 2 and 794 degrees of freedom at 0.05 level of significance. This result is also significant. Consequently, this significant nature of the results of the analysis led to the rejection of the null hypothesis and the alternative hypothesis is accepted. This implies that there is a significant difference in the students' perceived motivation to learn in Federal and State Universities as regards the available infrastructure.

Further, analysis of interaction between students' perceived motivation to learn and the available infrastructure was not significant given a lower calculated F-value of 1.48 than the critical F-value of 3.00 given 2 and 794 degrees of freedom at 0.05 level of significance.

Discussion of Findings

The result of analysis of the first hypothesis shows that there exists significant relationship between infrastructure and students' perceived motivation to learning. This finding agrees with Adeboyeje (1994), Vaisey (1968), Ejiogu (1997) and Nwagwu (2004), who posited that availability of adequate school buildings, classrooms, chairs and tables, laboratory, library and other physical structures are necessary for the accomplishment of any educational goals and objectives.

Specifically, Jeffery (1999) in his work on influence of the physical school setting on learning and literacy mentioned that schools are more than bricks and mortal, they are symbols commitment to education, they are designs that inspire good teaching, support productive learning, enhance learners' joy and prompt feelings of security.

. However, the results obtained revealed the current state of infrastructure in our institutions of higher learning as being inadequate. For example, the results obtained from observation schedule used by the researcher revealed that the federal universities in the South-West geo-political zone which fall within the scope of this study were found to be more endowed in terms of infrastructure (University of Lagos and Federal University of Technology, Akure),

where most of the structures are storey buildings. But in the state universities studied (University of Ado-Ekiti, Olabisi Onabanjo University, Ago-Iwoye, and Ladoke Akintola University of Technology, Ogbomoso), there were more of bungalow structures. Interestingly, the need for expansion in terms of infrastructure particularly buildings is being recognized. This is evident from the host of new projects being developed in all the institutions. For examples, in University of Ado - Ekiti, three new physical projects meant for library and classroom blocks respectively were being constructed. In Ladoke Akintola University of Technology, Ogbomoso, as at the time of this study, one new project meant for students' affairs office was on, while another for classroom blocks was on in its college of medicine, Osogbo.

Similarly, Federal University of Technology, Akure had seven new projects meant for workshops, vice chancellor's office and school of environmental science blocks. Others in progress were the road construction and motor parks. The same was noticed in Olabisi Onabanjo University, Ago-Iwoye where about five new projects meant for lecture halls, classroom blocks and library were observed. Also, University of Lagos as at the time of this study waswt2 ods class9arm

In the course of this study, the researcher discovered that most laboratories in some of the institutions studied such as FUTA, UNAD, OOU and LAUTECH were equipped when it was time for the accreditation panel from NUC to visit those institutions. To this, the researcher is of the opinion that it is pertinent, therefore, to note that provision of these equipment and materials are essential for effective teaching-learning in our institutions which if not present, available and adequate will cause adverse effects on the students' motivation to learning. It is pathetic to find students studying sciences, technology and medical related courses under condition of inadequate facilities to practice with or work on. How then do we pursue the national aims and objectives of our education? How then do we attain our dreams of greater height in terms of

alternative source of power supply. It is worthy mentioning that every faculty in University of Ado-Ekiti has alternative source of power supply which is quite functional for as long as the faculty may want. The same percentage (85%) of respondents agreed for water supply on campus. It was observed that all the institutions can boast of water supply by means of borehole. Except for UNAD, that had lots of well serving as alternative sources of water supply. In LAUTECH, water supply was done by the works department to all faculties on regular basis apart from the borehole.

To sum it all, it becomes evident from the above findings that the level of infrastructure available in our institutions of higher learning is inadequate and varies. The researcher is of the opinion that experiences of the students are better expressed within the facilities available. It may be reasonable therefore to state that a well equipped institution of learning will be functional educationally. This is because effective teaching and learning is closely related to infrastructure available. Furthermore, infrastructure has tremendous impact on the comfort, safety, protection and motivation of the students. It should be noted that a well equipped classroom will facilitate perfect attention required by a teacher and the feed-back will show high motivation that will result in effective learning and better academic performance.

Recommendations

To further enhance students' perceived motivation to learning in Nigerian

improvement" act. This is hoped to go a long way providing for the Nigerians "dignifying" University structures and not "glorified" university structures.

Students' admission into faculties in the universities should be based on the available infrastructure.. It should be acknowledged that the current figure of students on enrolment in Nigerian universities is quite outrageous when student teacher ratio is established. For high productivity on the part of the lecturers, something drastic has to be done to curb excessive admission of students into universities. Infrastructure has a corresponding impact on students' achievement.

Federal Government should build national laboratories. .As a matter of urgency, the federal government must remedy the situation of ill-equipped science and engineering laboratories and workshops by building national laboratories at different zones of the country with the most modern, functional hi-tech equipment to serve several universities. This will go a long way helping our university graduates from only textbook knowledge of research equipment

Above all, the school productive process is utilization of the school physical and human resources to produce educational activities. If institutions of learning are to improve in terms of efficiency and effectiveness, then they must do so by providing adequate and quality infrastructure and welfare services converted into educational activities capable of motivating students to learning. Moreover, opportunities should be given for proceedings during conferences and allied educational gatherings to affect policy. Its only by so doing the intellectual impacts can be felt on our national development.

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