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Influence of Accommodation on the Academic Performance of Architecture Students

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ABSTRACT

Academic performance of students in Higher Education is an issue of concern following rising global unemployment rates and funding problems because of its link to social and economic progress for many countries. This study investigates the influence of accommodation as a subset of school factors on academic performance of HE students employing students from Ahmadu Bello University (ABU) Zaria, the oldest school of Architecture in Nigeria. Questionnaires from 96 respondents were analyzed for Relative Influence Index, differences in ratings of 24 variables via Mann Whitney U test and Kendall Tau test for possible relationships of academic performance with room size. Results reveal living conditions notably cleanliness, electricity and water supply, overpopulation and territoriality most influence academic performance. Students living on campus also perform better academically and room size significantly influenced academic performance. The study recommends, amongst others, that policy makers and facility managers prioritize current management practices to improve living conditions in existing accommodation facilities on campus while planning for adequate infrastructure to cater for student accommodation needs in future.

INTRODUCTION

The overarching goal of every student is to graduate, preferably with the highest possible grades. With rising global Higher Education (HE) enrolment, many universities, employers of labour and HE funding organizations are increasingly becoming concerned with creating and maintaining environments, which foster better learning conditions and achievements (Masrek & Zainol, 2015). This is important because students are the most essential asset of any educational institution and their performance is directly linked to the social and economic development of any country (Mustaq & Khan, 2012).

Consequently, factors affecting the academic performance of students have received considerable research attention in recent years. These are broadly categorized under family, student and school/university characteristics (Baharin, Othman, Azizan, & Isa, 2015; Dey, Choudhury, Mollah, & Kim, 2015). Several studies establish parents' educational level, occupation and income as family characteristics that influence academic performance of students (Tesfay & Zekiros, 2015). Student characteristics such as gender, well-being, motivation, health status, involvement in scholastic and co-circular activities have also been found to determine the academic performance of students (Mersha, Bishaw, & Tegegne, 2013; Tiruneh & Petros, 2014). School and university factors, which affect student performance, include teacher qualifications, competencies, teaching quality and methods (Muzenda, 2013; Baharin et al, 2015; Nyadanu, Garglo, Adampah, & Garglo, 2015; Costa, Cardoso, Lima, Ferreira, & Abrantes, 2015). School and university factors are arguably an area where public policies and funds are visibly targeted at for improvong HE in many contexts unlike family and student characteristics which go beyond public domain and influence. Few studies focus on the influence and effect of the built environment on the academic performance of students, especially accommodation as an aspect of school characteristics. This is important because huge funds are

expended in developing the physical built environment in a bid to improve HE experiences of students in many developing countries.

The research therefore seeks to establish features of student accommodation that most influence academic performance of architecture students using undergraduate final year and Masters students at the Department of Architecture, Ahmadu Bello University (ABU), Zaria-Nigeria. Architects are primarily concerned with the conceptualization and design of the physical built environment and are thus more knowledgeable and sensitive about matters relating to buildings. They are also major players in the construction industry. The department of Architecture at ABU was chosen because it is the oldest School of Architecture in Nigeria. Influences on the academic performance of architecture students are also rare in empirical research (Adewale & Adhuze, 2013).

Specifically, the study seeks to address the following research questions:

i)   Which features of student accommodation influence academic performance of the respondents?
ii) Is there a difference in the perception of influence of accommodation features between students living on or off campus?
iii) Is there a difference in overall academic performance between students living on and off campus?
iv) Is there a relationship between academic performance and the size of rooms, which is a basic spatial design consideration in student accommodation?

REVIEW OF RELATED LITERATURE

Academic performance

Academic performance is the measure to which students excel in their subject, course, discipline or registered program. Sometimes expressed as academic achievement, 'it represents performance outcomes that indicate the extent to which a person has accomplished specific goals that were the focus of activities in instructional environments' (Steinmayr, Meibner, Weidinger & Wirthwein, 2015). The cumulative grade point average (CGPA) at the end of a semester or entire program is often employed to measure academic success and achievement in HE (Muslim, Karim, & Abdullah, 2012; Baharin et al., 2015; Ranjandran, Hee, Kanawarthy, Soon, Kamaludin, & Khezrimotlagh, 2015).

Many studies have attempted to predict and determine factors that affect academic performance across a wide range of locations and contexts. Academic performance is a function of many factors and dependent on the study sample as well as study context. Consequently, results vary. Baharin et al. (2015) established a significant relationship between family characteristics and academic performance in Johor, Malaysia. This supports findings in a study of undergraduate students in Ethiopia which established level of parental education as an influence on female students' academic performance (Tiruneh & Petros, 2014).

Findings on student characteristics are overall often contradictory. This in part is because of the difficulty to control all factors that affect university attainment and academic performance (Thiele, Singleton, Pope, & Stanistreet, 2016). Whist Mersha et al. (2013) and Tiruneh & Petros (2014) established the negative effect of school environments notably teacher roles and off campus facilities on female undergraduate student perfomance in Ethiopia, Ranjandran et al. (2015) note that gender is not an important factor for determining first year students' academic performance in Malaysia. The study found that entry qualifications, a student characteristic, was 'the strongest variable that determines the CGPA of first year students' (ibid, p. 58). Similarly, Fields (1991) established previous academic performance as the most influencial variable on student academic performance. These findings collaborate a recent study of British graduates where males enter university with lower grades than females and 'were also less likely to achieve either a first or an overall good degree' (Thiele et al., 2016, p. 1432). Females also performed better than their male counterparts for a core architectural course in an study of academic performance (Opoko, Alagbe, Aderonmu, Ezema, & Oluwatayo, 2014). In contrast, Adewale & Adhuze (2013) establsihed a low correlation between entry

qualifications (in Mathematics and Physics) and academic performance of architecture students in Nigeria. Enthusiasm and pre-knowledge of famous architects and their works were found to influence the design performance of first year undergraduate students in Turkey (Kirci & Yildirim, 2013). Other related student characteristics found to affect academic performance are emotions/self-perception, self-regulated learning and motivation (Tiruneh & Petros, 2014; Mega, Ronconi, & De Beni, 2014). Teaching methods were also inferred to maintain the academic perfomance of architecture students in core architecture courses (Afolami, Olotuah, Fakere & Omale, 2013).

Findings on the relationship between academic performance and university features such as accommodation and faculty characteristics also vary depending on location and sample. Baharin et al. (2015) established a significant relationship betweeen academic performance and university feautures largely due to the proximity, accessibility and quality of physical facilities notably the library and classrooms as well as IT services provided by UiTM, Malaysia. Mersha et al. (2013) however note that 'the school environment in the higher education institutions is a system of stratification that embodies differences of prestige and status among sexes' (p. 144). Nchungo (2013) identified inadequate student accommodation as a factor affecting 82.5% of the surveyed undergraduate students at the University of Zambia.

Student accommodation

Studies on student accommodation either assess the direct effect of student housing conditions on academic performance or address satisfaction, attitude, perception and quality of student housing as part of modalities towards the general improvement of student experience and by implication, student achievement. The latter form the vast majority of the literature reviewed. Analyses were often conducted with gender and nature of accommodation in terms of living on or off campus as dependent variables. Araujo and Murray (2010a) in a study of students in the United States established that living on campus increases GPA by between 0.19-0.97. The degree of improvement to student performance caused by living on campus ranges between one-fifth and one full-letter grade (Araujo and Murray, 2010a, p. 1). Owolabi (2015) establsihed a similar trend at the University of Ibadan. In contrast, Omar, Abdullah, Yusof, Hamdan, Nasrudin & Abdullah (2011) note that the academic performance of off-campus students are not influenced by the environment in Malaysia 'although living off campus is said to be more challenging than staying on campus' (p. 1225). Other studies either report significant improvement of academic performance largely owing to living on-campus or the inverse where living off-campus was found to negatively impact academic performance (Yusuff, 2011; Modebelu & Agommuoh, 2014; Ekejiuba, 2015).

Depending on quality of facilities and services provided, students' satisfaction with their accommodation varies across the different contexts reported in literature. Features generally rated less satisfactory include overall student accommodation quality (Nimako & Bondinuba, 2013), fees (Khozaei, Ayub, Hassan, & Khozaei, 2010; Matthew, 2014), room size, service spaces notably bathrooms, kitchens and laundries as well as auxiliary facilities such as the internet, security, electricity and water supply (ibid; Neema, 2003; Yusuff, 2011; Najib, Yusof & Osman, 2011; Igbinedion, 2012; Oladiran, 2013; Ekejiuba, 2015). Conditions associated with student housing which record negative satisfaction ratings include overcrowding and issues of territoriality (Amole, 2011; Modebelu & Agommuoh, 2014; Ekejiuba, 2015), cleanliness (Nchungo, 2013), distance from academic facilities (Araujo & Murray, 2010a, 2010b), thermal comfort and noise levels (Yusuff, 2011).

METHODOLOGY

Study Area

Ahmadu Bello University (ABU), founded in 1962 is one of the first generation universities in Nigeria and the largest university in Sub-Saharan Africa with twelve faculties, 84 departments as well as a Postgraduate School (ABU , 2011). The University has sixteen halls of residence accommodating about 40% of its student population (ibid). Half of the hostels are situated on the main campus. These are Amina, Alex and Ribadu Halls (accommodating female students) while Danfodio, ICSA, Ramat and Suleiman accommodate male students. Amina, Suleiman, Ribadu and Alexander halls are multi-storey hostels going up to third floors.

The remaining hostels are all on ground floors. The Department of Architecture is situated on the main campus. Subsequently, undergraduate and few postgraduate architecture students who reside on campus are accommodated across the aforementioned hostels. Postgraduate students are accommodated in Yar'adua, Sassakawa and Akenzua hostels also on the main campus. Hostels in ABU comprise rooms, bathrooms, toilets, laundry as well as dining facilities run by reputable private caterers. Hall administrators oversee the daily running, cleaning and maintenance of the hostels. The institution's security personnel man entrances to hostels as ABU observes strict regulations about male entrance into female hostels (ibid).

Methods and instruments

In line with findings from literature, the study adopted a framework focusing on the effect of living conditions and building/architectural features on academic performance (Figure 1).
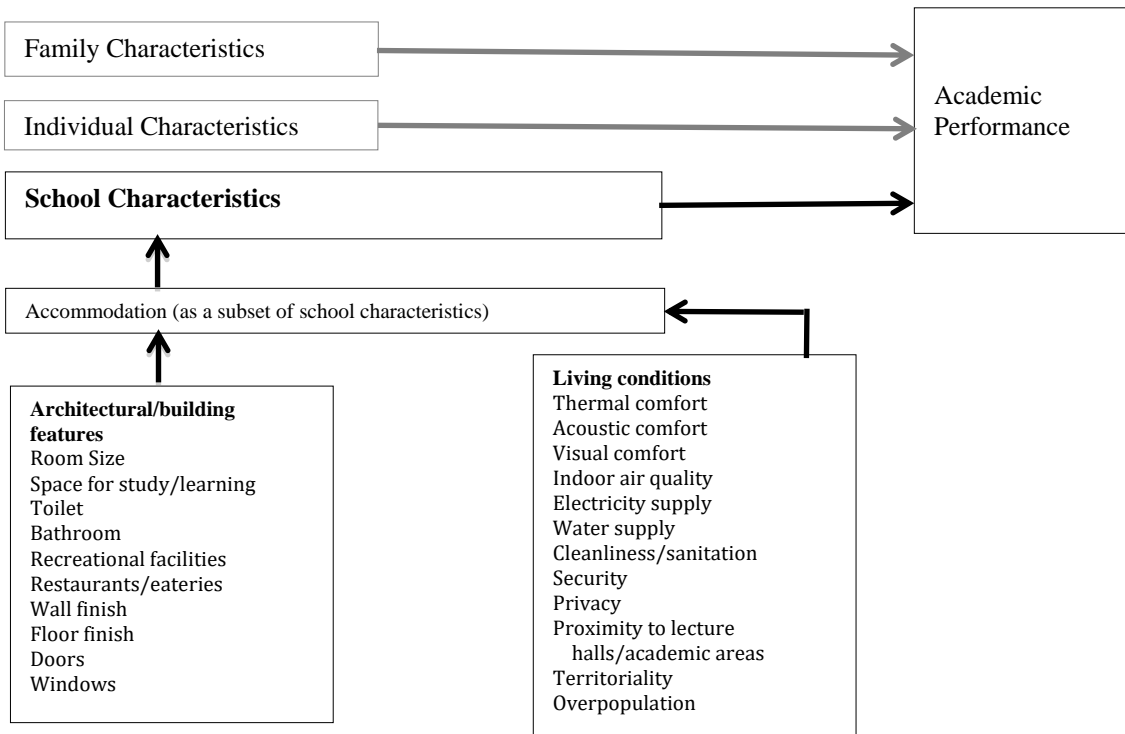

Figure 1: Conceptual and theoretical framework for the study

The target population was final year students at both BSc and MSc levels because these students have the longest experience on campus at undergraduate and postgraduate levels respectively. The population size for final undergraduate students for the 2015/2016 session was 96 while the MSc II class was 74 (NIA/ARCON Revalidation Exercise Document, 2016). The sample size was calculated using Yomens (2000) formula $SS = N/1 + (e)^2$ where SS is sample size, N is population size and e is the tolerable error in estimating the population. This was taken as 0.05. Sample size was therefore calculated at 120. The same number of questionnaires was distributed, with 96 (80%) retrieved and employed for analysis. This response rate is slightly higher than reported in recent studies for a similar population (Samaila, 2016; Maina, 2015).

To establish which accommodation features influence academic performance of architecture students (Research Question 1), a survey questionnaire was developed in two sections. Section one elicits demographic information relating to gender, age, marital status, type of accommodation (whether on or off campus), number of occupants in the room, room size as well as cumulative grade point average (CGPA). Section two required respondents to rank the degree to which, architectural features and living conditions common in the study area influence academic performance on a scale of 1-5, 1 being un-influential to 5, very influential.

Responses were analysed in SPSS v.21 for descriptive statistics and Relative Influence Index (RII). Descriptive statistics were employed to obtain the profile of respondents while RII was employed in establishing the features that most influence academic performance of the respondents. RII is calculated as the ratio between total actual scores per question from all respondents (TAS) and maximum possible score for that question (MPS). MPS for each question in this sample is a product of the total number of respondents by the maximum Likert scale response possible, which is 5 points. Cronbach's alpha was employed to test the reliability of the two scales (architectural features and living conditions). These produced scores of 0.852 and 0.916 respectively for both scales containing 12 items each. The questionnaire was adjudged reliable for the purposes of the study as these figures are higher than the recommended range of 0.7-0.8 (Field, 2013).

To test whether differences exist between these two scales based on nature of accommodation (on or off-campus) in order to address research question 2 as well as differences in academic performance of architecture students living on and off-campus (research question 3), independent samples Mann-Whitney U tests were conducted, as the distributions of scores from both scales as well as CGPA were found to be significantly different from normal distributions. To address research question 4 investigating the possibility of a relationship between academic performance of architecture students and the basic spatial variable of room size, Kendall-Tau correlation coefficient (τ) was employed. Results from these analyses are presented in the next section.

FINDINGS AND DISCUSSION

Findings

The average respondent from the sample is a single undergraduate male student residing on campus (Table 1). This fits the profile from recent studies of architecture students in the study area (Abdulkarim, 2011; Maina, 2015).

Table 1: Demographic profile of respondents

Variable	Category	N	%
Gender	Male	71	74
	Female	25	26
Age	16-20 years	9	9.4
	21-25	47	49
	26-30	23	24
	31 and above	17	17.7
Marital status	Single	85	88.5
	Married	10	10.4
	Divorced	1	1
Level	400L (Undergraduates)	68	71
	MSc II (Postgraduates)	26	27.1
	Missing	2	1.9
Location	On Campus	61	64
	Off Campus	33	30.1
	Missing	2	1.9
Mode of acquiring accommodation (on campus)	Reserved from School	42	43.8
	Agent	30	31.3
	Swapping	4	4.2
	Bought from a student	13	13.5
	Bought from Staff	2	2.1
	Family and friends	5	5.2

In response to research question one, living conditions and amenities most influence academic performance of architecture students (Table 2). Specifically, cleanliness/sanitation, electricity, portable water, overpopulation and territoriality were ranked the highest most influential variables. These are closely followed by thermal comfort, privacy, indoor air quality, security and visual comfort. Architectural or physical building features were generally less influential on academic performance, with size of room and spaces for learning both ranked 11th.

Table 2: Features influencing academic performance

Variable	N	M	SD	TAS	RII	Rank	Category
Cleanliness/ sanitation	96	4.03	1.071	387	0.81	1	Living Condition/ Amenity
Electricity	96	4.01	1.310	385	0.80	2	Living Condition/Amenity
Portable water	96	3.98	1.231	382	0.80	2	Living Condition/Amenity
Overpopulation	96	3.97	1.432	381	0.79	4	Living Condition/Amenity
Territoriality	96	3.94	1.280	378	0.79	4	Living Condition/Amenity
Thermal comfort	96	3.86	1.193	371	0.77	6	Living Condition/Amenity
Privacy	96	3.86	1.092	371	0.77	6	Living Condition/Amenity
Indoor air quality	96	3.80	1.166	365	0.76	8	Living Condition/Amenity
Security	96	3.80	1.175	365	0.76	8	Living Condition/Amenity
Visual comfort	96	3.68	1.192	353	0.74	10	Living Condition/Amenity
Size of room	96	3.64	1.087	349	0.73	11	Arch/Bldg feature
Space for learning	96	3.63	1.250	348	0.73	11	Arch/Bldg feature
Proximity to lecture hall	95	3.61	1.416	343	0.72	13	Living Condition/Amenity
Acoustic comfort	96	3.39	1.309	325	0.68	14	Living Condition/Amenity
Rest area	96	3.31	1.268	318	0.66	15	Arch/Bldg feature
Window	96	3.21	1.132	308	0.64	16	Arch/Bldg feature
Restaurants/ eateries	96	3.05	1.234	293	0.61	17	Arch/Bldg feature
Door	96	3.02	1.222	290	0.60	18	Arch/Bldg feature
Floor finish	96	3.01	1.227	289	0.60	18	Arch/Bldg feature
Space of toilet	96	3.00	1.306	288	0.60	18	Arch/Bldg feature
Space of bathroom	96	2.75	1.298	264	0.55	21	Arch/Bldg feature
Wall finish	95	2.72	1.226	258	0.54	22	Arch/Bldg feature
Recreational facilities	95	2.71	1.211	257	0.54	23	Arch/Bldg feature
Ceiling finish	94	2.66	1.196	250	0.53	24	Arch/Bldg feature

In response to research question two, distributions of ratings from three variables were found to significantly differ for students living on and off-campus (Table 3). These are proximity to lecture halls, portable water and size of room. It is pertinent to note that the first two are living conditions/amenities while the third is a design feature of the physical built environment. Mean scores of all three variables on influence on academic performance are significantly higher for students living on-campus than off-campus. This implies that the academic performance of architecture students living on-campus is influenced more by proximity to lecture halls, portable water and size of room than for their counterparts living off-campus. The differences in rating for electricity, while not significant, are ranked fourth. Floor finish, space for learning and overpopulation are ranked fifth, sixth and seventh respectively.

Table 3: Differences between ratings for features influencing academic performance

S/No	Variable	Overall Mean	Mean On campus	Mean off campus	Test stat (U)	p value
1	Proximity to lecture halls	3.61	3.98	2.94	652	0.002**
2	Portable water	3.98	4.19	3.59	779	0.024**
3	Size of room	3.64	3.82	3.29	927	0.027**
4	Electricity	4.01	4.21	3.65	847.5	0.084
5	Floor finish	3.01	3.15	2.76	850	0.108
6	Space for learning	3.63	3.74	3.41	896	0.158
7	Overpopulation	3.97	4.21	3.53	887	0.16
8	Rest area	3.31	3.42	3.12	886	0.187
9	Restaurant/ eateries	3.05	2.95	3.24	1217	0.198
10	Window	3.21	3.31	3.03	909.5	0.253
11	Cleanliness/ sanitation	4.03	4.16	3.79	920.5	0.278
12	Indoor air quality	3.8	3.89	3.65	943.5	0.378
13	Recreational facilities	2.71	2.77	2.58	927	0.438
14	Wall finish	2.72	2.77	2.62	955	0.516
15	Bathroom	2.75	2.69	2.85	1127	0.567
16	Visual comfort	3.68	3.63	3.76	1125	0.573
17	Door	3.02	3.06	2.94	988	0.604
18	Toilet	3	2.95	3.09	1115	0.629
19	Security	3.8	3.85	3.71	999.5	0.663
20	Privacy	3.86	3.9	3.79	1002.5	0.68
21	Ceiling finish	2.66	2.69	2.61	957	0.69
22	Thermal comfort	3.68	3.87	3.85	1019	0.778
23	Acoustic comfort	3.39	3.42	3.32	1027.5	0.834
24	Territoriality	3.91	3.95	3.91	1060.5	0.953

**Significant at 0.05

In response to research question 3, academic performance of students living on campus is significantly higher than for those residing off-campus. Averagely, a student living on-campus within student halls of accommodation would graduate with a second class lower degree in architecture while his/her counterpart living off-campus would graduate with a third class degree. Academic performance was also inversely proportional to density or number of occupants per square meter. In other words, the higher the density, the lower the academic performance of respondents measured by the CGPA (Table 4). While the average density of on campus accommodation from the sample meets the minimum standard requirement for hostels per person (Neufert & Neufert, 1990, p. 470), density computed for off-campus accommodation from the sample is higher than the stipulated figure of 3.1m^2 per occupant. Room sizes were on average smaller off-campus than on-campus. This may account for the relatively high ranking of overpopulation and territoriality as influential to academic performance (Table 2). A significant but weak relationship was however recorded between size of room and academic performance from the sample (τ=0.2, p=0.003) in response to research question four.

Table 4: Differences in academic performance of students living on and off campus

S/No	Location	Mean CGPA	Test stat U	p value	Av. Room Size (m^2)	Av. Density (m^2/pers.)
1	On campus	2.47	701.5	0.002**	11.34	3.1
2	Off campus	2.03			8.82	4.6

**Significant at 0.05

Discussion

Managerial related variables most influence academic performance

Results established cleanliness/sanitation, electricity, portable water supply and overpopulation as the most influential aspects of accommodation on academic performance. This result supports findings in literature that amenities and living conditions influence enrolment and retention rates at HEIs as well as academic achievement (Neema, 2003; Yusuff, 2011; Najib, Yusof & Osman, 2011; Igbinedion, 2012; Oladiran, 2013; Ekejiuba, 2015; Baharin et al. 2015). The variables constitute aspects of living conditions as amenities of the physical built environment, which should ideally be maintained and enhanced by effective management practices unlike the construction of architectural and building features which are arguably more capital intensive.

Cleanliness/sanitation directly affect the health and well being of an individual. This variable is more crucial for students living on campus than for those staying off-campus on their own in part because cleanliness and sanitation on-campus is handled by the school management on the larger scale and by students within the individual rooms. This is unlike obtains for students living off-campus who are solely responsible for maintaining a clean environment. Findings from other studies note toilets, kitchenettes and laundry areas as particulary prone to low rankings for cleanliness and poor sanitation. There is a need for future studies to investigate such variables as problem areas.

The issue of epileptic electricity supply has been the bane of many sectors of the Nigerian economy in recent times, academia not exempt. While government and management of Higher Education Institutions (HEIs) in the country are making efforts to improve this vital area, it is imperative that a holistic approach be employed to address the problem as it is crippling the future of the next generation in many ways including their education. This is also true for the adequate provision of portable water. Water is life. It is therefore critical for the smooth running of day to day activities in the academic context. While management and government have been criticised for the inadequate supply of both amenities, the behavior patterns of residents from the consumption end also demands a rethink in future studies if the problem is to be tackled holistically.

Hostel overpopulation in Nigerian HEIs is an endemic and chronic issue. Many hostels in the study area were designed for a maximum of two occupants. It is not uncommon however to find double or triple that number in a room largely due to an explosion of population and increase in infrastructure provision in HEIs (Matthew, 2014; Ekejiuba, 2015). Squatting is an established practice by many students in response to lack of accommodation in schools (Alaka, Pat-Mbano, & Ewulum, 2012). This unfortunate trend is not restricted to the study area alone but to virtually all public tertiary institutions in the country.

Academic performance of students living on-campus is higher than for their counterparts living off-campus

This result supports findings from studies such as Araujo & Murray (2010a) and Owolabi (2015) underscoring the vital role accommodation plays on academic performance of students (Nimako & Bondinuba, 2013; Modebelu & Agommuoh, 2014; Ekejiuba, 2015). Students generally prefer to live within close proximity to facilities of learning. Architecture students are particularly vulnerable in this regard as they spend late hours in studio. Living far from school often poses challenges not encountered by their counterparts staying in hostels. Generally, parents and guardians of students in HEIs prefer campus accommodation because it is believed that being on-campus affords a holistically better student experience than living off-campus (Araujo & Murray, 2010a). Studies confirm that proximity to lecture halls and adequate provision of ameniities is a significant variable influencing academic performance (ibid). In recent times however, the preference to live off-campus has permeated student thinking in part arising from the deplorable conditions of student hostels on Nigerian campuses. It has even become a form of status symbol especially among the affluent for

students to rent out rooms and apartments off-campus in the name of a better study environment. While significant differences were established between variables relating to living conditions from this study, results confirm that for architecture students, it is academically advantageous to reside on-campus. This maybe linked to the fact that architecture is a studio based discipline and collaborations in school foster better academic performance in contrast to secluded environments represented by off-campus living. Interestingly, the perceived poor conditions of student hostels often serve as motivation to perform well and secure a better future after leaving school.

Size of room as a design feature matters when it comes to academic performance

Results from the study suggest that the size of a room has a significant influence on overall academic performance. This is closely related to overcrowding, density and issues related to territoriality which respondents rated high for influencing academic performance. As revealed by the study results, off-campus accommodations are on average smaller than what obtains on-campus. This implies that students living off-campus may in reality be faced with deplorable living conditions in terms of available space. This is largely due to the fact that off-campus accommodation is usually a profit-making venture, with landlords going for maximum profit at the expense of adhering to basic spatial standards for student accommodation (Yusuff, 2011). This has adverse effects on the health, wellbeing and ultimately academic performance of students.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

In conclusion, this study set out to investigate the influence of accommodation as a school characteristic on academic performance of HE students. Results from the study revealed that living conditions notably cleanliness/sanitation, electricity and water supply, overpopulation and territoriality were ranked as highly influences on academic performance of architecture students. These are closely followed by thermal comfort (possibly resulting from overpopulation), privacy, indoor air quality, security and visual comfort. Findings also revealed significant differences in ratings based on location for proximity to lecture halls, portable water and size of rooms. Overall, academic performance was higher for students living on-campus than for those living off-campus. Size of room also had a significant but weak relationship with academic performance.

Recommendations

Based on these findings, the study proffers the following recommendations targetting policy makers in government, infrastructure and maintenance officials in ABU and other institutions, parents and guardians of architecture in HEIs as well as researchers embarking on similar studies in future.

First, government policy makers and managers of institutional facilities need to priotize maintenance of available infrastructure while planning for future expansion of for HEIs. Living conditions are often initiated at the design stage prior to construction. Many of such amenities are however implemented and maintained after construction by proper management. While research has repeatedly and rightfully called for better provision of additional buildings and infrastructure by government as a panacea to improving student experience and performance in HEIs, it is vitally important to ensure that adequate managerial practices for living conditions are put in place for existing facilities and sustained to support HE learning. These are arguably less expensive and often well within the control of institutions. It is also vital to adequately maintain facilities and buildings already in use to the benefit of users. Very few facilities demand this level of urgent attention than student accommodation in ABU and by implication other Nigerian campuses.

Secondly, parents and guardians of HE students in general and architecture in particular need to carefully consider the accommodation arrangement of their children and wards. Indeed, the perceived comfort level desired for students living off-campus may not always translate to a better school experience or grades. As results from this study have revealed, living off campus is on average not advantageous. Institutions and government also need to put modalities to ensure building regulatios such as basic room sizes adhere to stipulated standards by landlords and organizations catering to accommodating students off-campus.

Thirdly, future studies need to employ a larger sample size and student population to ascertain features of accommodation which influence overall student academic performance. This study employed a single discipline within one school. These limit genaralization of findings even in the study area. Additionally, variables such as cost of living, fees, transportation, internet and other contemporary facilities were not included in this study. These may ultimately influence the overall academic performance of HE students.

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