

Evaluation of the Relationship Between Academic Performance of Students and Hostel Amenities Provided in Federal Universities in North East, Nigeria

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DOI: [10.56201/ijebm.vol.11.no5.2025.pg28.39](https://doi.org/10.56201/ijebm.vol.11.no5.2025.pg28.39)

Abstract

The academic performance of students is multifaceted phenomenon influenced by various factors including study space, teaching method and personal characteristics one often overlooked aspect that can significantly impact academic performance is the availability and quality of amenities provided in hostels where many students reside during their academic tenure. However, there has been limited research conducted in Northern universities on this issue. This paper aimed to evaluate the relationship between academic performance of students and amenities provided in hostels in Federal Universities in North East Nigeria, intending to provide guidance for the provision of adequate amenities and services to enhance students' satisfaction in their hostels. The population for this study consisted of students residing on campus in the study area, totaling 32,256 across seven federal university hostel blocks. A sample size of 2,717 students was selected for data collection using a proportional sampling technique based on the hostel blocks. A five-point Likert scale questionnaire was used as the data collection instrument, and pretesting surveys were conducted to validate the questionnaire. The collected data were analyzed using correlation analysis. The findings indicated that amenities such as electricity supply, bathrooms, sporting facilities, recreational facilities, common rooms, wardrobes, internet services, surveillance cameras, wall sockets, whiteboards, fans, and plumbing have direct relationship with academic performance, indicating a positive and significant effect on students' academic performance. The correlation coefficients range from -1 to 1, where the sign indicates the direction of the relationship (positive or negative), and the absolute value represents the strength of the relationship, with larger values indicating stronger correlations. The study recommends regular assessments and feedback mechanisms to identify areas for improvement. Regular evaluations and students engagement strategies will facilitate informed decision – making and resource allocation and address any issues immediately

Key words: Student hostel, academic Performance, Amenities Provision

1.0 Introduction

This study evaluates the relationship between academic performance and hostel amenities aiming to identify how amenities like electricity, study space, kitchen, desk and chairs etc. correlate with students' academic performance in federal universities in north east Nigeria. By analysing the

relationship, the research seeks to inform strategies for optimizing hostel environments to support student academic performance. Students' hostel amenities, in particular, play a significant role in shaping their academic experience. Mbazor (2021) highlights that hostel accommodations and amenities are a major concern for university students worldwide. These facilities are critical in determining how effectively students engage with their academic work on campus. The quality and availability of hostel amenities have a direct effect on both students' academic performance and their overall well-being.

Hostel amenities generally consist of basic necessities such as water, electricity, security, laundry services, internet access, cafeterias, parking spaces, health services, and wardrobes. According to Habu B. (2021), students require a comfortable environment to unwind after classes in order to fully engage in lectures and other school activities. Ensuring the availability, upkeep, and proper management of these hostel amenities is essential for students' academic success.

Universities across the country must prioritize providing sufficient and functional amenities to improve student hostel life and enhance the overall university experience. Georger (2017) and Rahman et al. (2020) highlighted the crucial role that well-maintained hostel accommodations play in helping students attend lectures, participate in school activities, and carry out research.

Literature Review

2.1 Relationship between Academic Performance and Amenities Provided

In a recent study, Asibu (2021) explored the factors affecting the academic success of medical students at the University of Cape Town. The findings revealed that the availability of amenities in hostels has a significant impact on students' academic performance and is crucial to their achievements. It is widely acknowledged that providing adequate amenities is essential for student satisfaction, which in turn leads to improved academic outcomes. Jamelske (2009) reported on research conducted in North America regarding amenities in student residence halls. The study found that students living in dormitories achieved higher GPAs, maintained their grades more effectively, enrolled in more credit hours, and formed better connections with faculty due to the facilities available to them.

Habu (2024) also demonstrated a strong link between amenities and academic success, indicating that schools with superior hostel accommodations had students who achieved higher grades compared to those in schools with inadequate facilities. Similarly, Moore (2000) found that students who chose on-campus amenities generally performed better academically, attributing this to the convenience of being close to classrooms, as well as access to quality amenities and privacy. As a result, many students preferred to live on campus for its proximity to academic resources and comfortable living conditions.

2.3 Determinant of Students' academic performance

Several factors influence students' academic performance, including socioeconomic background, quality of teaching, learning environment, and personal motivation. Students from low socioeconomic backgrounds often face challenges like poor nutrition, insufficient resources, and a lack of parental support, all of which can negatively affect their academic performance. In contrast, students from wealthier backgrounds tend to have access to better resources and support, which can positively influence their academic success. Additionally, the quality of teaching plays a crucial role in determining academic performance. Teachers who are knowledgeable can foster a positive learning environment, significantly impacting student outcomes (Lund et al., 2019).

Online learning, however, can have negative effects, such as time wasted due to poor internet connectivity, inadequate course content, lack of proper supervision, and a lack of group discussions with peers (Anthonia, 2014). In a study conducted by Anthonia (2014), the impact of off-campus living on students' academic performance in Abia State was examined. Data was collected using a structured questionnaire and analyzed with descriptive statistics. The findings revealed that a lack of care from relatives and family members negatively influenced students' academic performance. Based on these findings, the study concluded that parents need to spend more time listening to their children's concerns and provide appropriate support.

Chaudhry (2011) examined the factors influencing students' academic performance in a metropolitan area in Pakistan. A questionnaire was distributed to participants, and data were analyzed using ANOVA to identify factors affecting performance. The findings indicated that parents' socioeconomic background and education level were the most significant factors, with parental education contributing greatly to student performance. Ali (2013) explored the factors influencing academic achievement in mathematics departments at a southern Nigerian university. A random sample of 100 students from each school was selected, and data were analyzed using their second-semester results from 2011/2012 through mean, standard deviation, and percentages. The results showed that Kaduna state University students performed slightly better than Collageof education students. Hamza and Abdulghani (2014) identified factors that contribute to students' success in medical studies, such as attending lectures, participating in focus groups, completing tests and assignments, revision, learning skills, note-taking, learning from patient interactions, time management, and family support. The study concluded that these factors, which are common to various students, could help improve academic performance. However, the study lacked an in-depth analysis of the university system's role in student performance.

2.3.1 Hostel amenities and academic performance

Hostel amenities can greatly influence students' academic performance. Students living in hostels with comfortable conditions, such as clean and well-maintained facilities, tend to focus better on their studies and achieve higher academic results. In contrast, students living in hostels with poor conditions, such as lack of internet access, overcrowding, insufficient lighting, and limited privacy, may struggle to concentrate and perform well academically (Animba & Nneji, 2020). Furthermore, hostels that offer resources like study areas, computer labs, and free parking can contribute to students' academic success (Ramli, Zain, Campus, Chepa, & Bharu, 2018). As noted by Animba et al. (2020), hostel amenities are essentially those that enhance the comfort of the residents. Silalahi (2020) categorized hostel amenities into two stages: those meant for students and those for administrative staff.

Maponya (2020) emphasized that the primary goal of providing hostel amenities is to support students' activities and ensure their comfort, which in turn can boost their academic performance (Ramli et al., 2018). Similarly, Nepal (2016) argued that hostel amenities enhance the effectiveness of teaching in schools. However, inadequate physical amenities can negatively affect students' interest in learning. Insufficient amenities have been shown to reduce students' motivation to learn, leading to a decline in their interest (Maponya, 2020).

Mlambo (2011) highlighted that students' academic success can be evaluated through various factors, such as gender or grades. Many studies have shown that a lack of amenities can cause a decline in academic performance. In line with this, Ramli et al. (2018) stated that students residing in newer hostels with better amenities tend to perform better academically than those living in older hostels with insufficient facilities. Abisuga, Wang, and Sunindijo (2019) revealed that the

condition of hostel amenities directly affects students' academic success, with students in well-maintained hostels achieving higher marks compared to those in poorly maintained accommodations. Additionally, Herman, Reinke, Dong, and Bradshaw (2022) pointed out that the design of hostels is another important factor in improving student achievement.

The arrangement of classroom furniture also impacts academic performance. Creating a learning environment where students feel comfortable and supported is crucial. Previous studies have found that female students tend to feel more at ease when the classroom is arranged in clusters or rows, as these setups create a more intimate and personal atmosphere that fosters communication and collaboration.

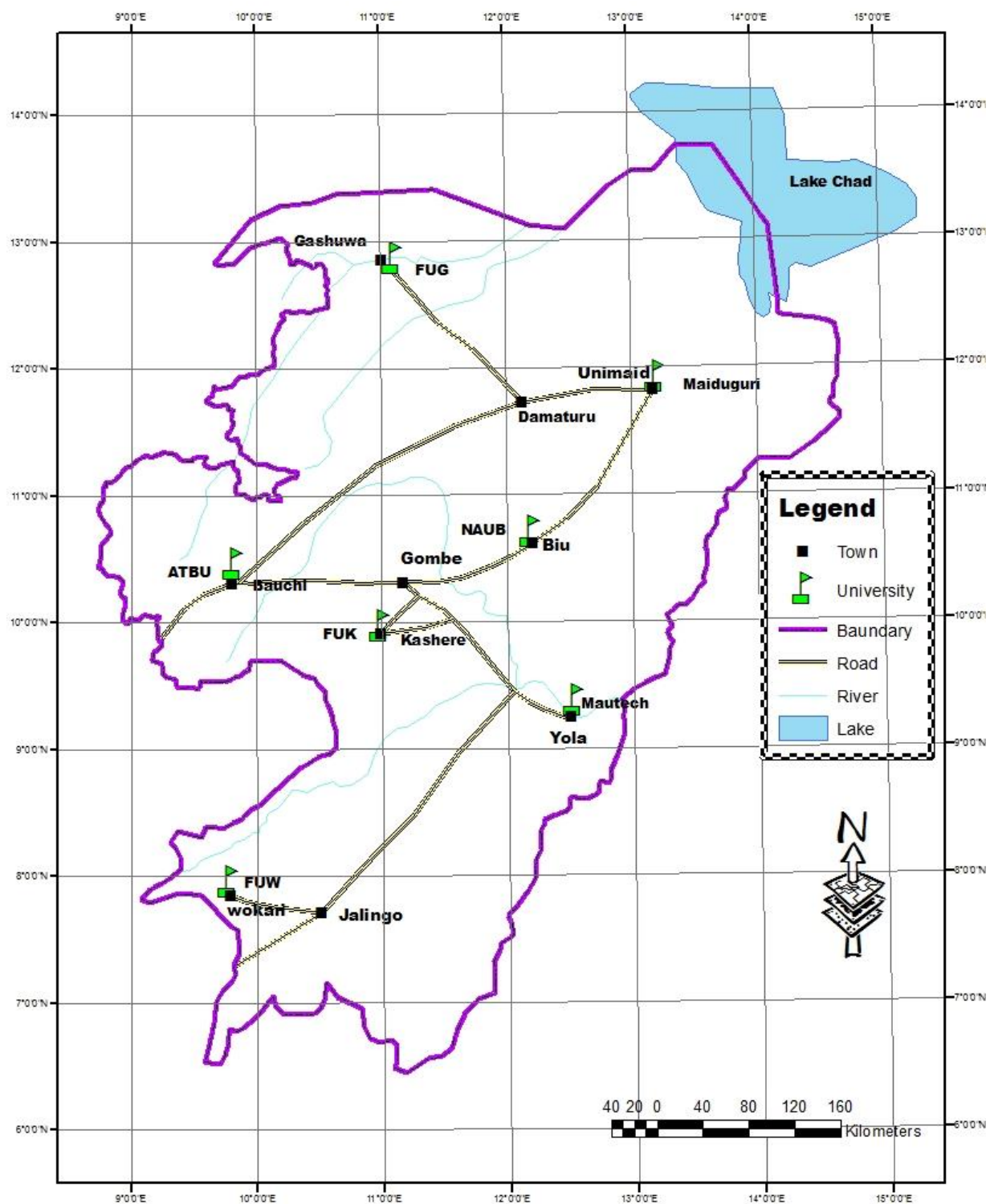
However, Simmons, Carpenter, Crenshaw, and Hinton (2015) argued that classroom arrangements in clusters and rows can sometimes lead to disruptive behavior and distract students from their tasks. Additionally, Ramli et al. (2018) noted that students living in hostels with newer and functional amenities tend to perform better than those in older, nonfunctional accommodations, which can negatively impact their studies. Previous research has indicated a significant correlation between the school environment and students' behavior toward learning. Langer (2000) found that students achieve better academic results when they reside in well-organized and maintained hostels. A supportive living environment can foster greater involvement in academic activities, suggesting that the quality of hostels plays a crucial role in students' academic success.

At the same time, Souck and Nji (2017) examined how inadequate supervision and a lack of maintenance culture affect the lifespan of amenities. This highlights the importance of effective supervision of facilities, including buildings and technical systems, to ensure that amenities operate smoothly and efficiently. Ramli et al. (2018) emphasized that a properly estimated repair plan should be established to ensure efficient allocation of repair costs and proper functioning of amenities. Effective management of school facilities is essential for helping institutions achieve their goals and objectives. In a similar vein, Durán-Narucki (2008) pointed out that insufficient amenities can lead into poor student attendance in classes, ultimately weakening academic performance. Nduka, Oyeyemi, Olofinnade, Ede, and Worgwu (2021) explained that institutions with inadequate indoor recreational areas in hostels may hinder students' ability to study effectively in classrooms, resulting in some students missing classes due to health-related issues.

3.0 Area of Study

North-East region of Nigeria is one of the country's six geopolitical zones and it comprises the following states: Adamawa, Bauchi, Borno, Gombe, Taraba and Yobe States. The region has a total number of around 30 million people, which is about one-third of Nigeria's total area and had a population as of 2011 of 23,558,674 or 13.5% of the country's population. The people living are mainly Fulani, with only the Borno state having Kanuri tribe as a majority, with about 100 minority ethnic groups. There are seven total number of federal Universities in the north east where by each state has the total number of one federal university except Borno State with has two federal Universities, Federal University Azare in Bauchi state is excluded being a newly established university. The amenities to consider in North East Universities students hostel include water supply, electricity, internet, etc. as well as other amenities provided in the hostels for students.

4.0 Fig 1: Map of North East States (case study area) showing specific universities location



Fig; 1 Specific location of North East Federal Universities in Nigeria

4.0 Methodology

4.1 Data collection and Sources

In achieving the study's objective, data were gathered from 2,717 participants using a structured questionnaire. The collected data underwent correlation analyses.

Table 2: Sample size of each University students

S/N	State	University	Students population	Sample Size
1	Bauchi	Abubakar Tafawa Balewa University Bauchi	6,260	527
2	Gombe	Federal University Kashere	5,452	459
3	Adamawa	Modibo Adama University of Technology Yola	4,927	415
4	Taraba	Federal University Wukari	3,750	316
5	Yobe	Federal University Gashuwa	2,379	200
6	Maiduguri	University of Maiduguri	7,677	647
7	Maiduguri	Nigerian Army University Biu	1,811	153
Total			32,256	2,717

5.0 Result and Discussion

Table 3: Relationship between hostel amenities and academic performance

Hostel Amenities	Academic Performance (Correlation Coefficient)	P-value
Academic Performance	1	
Electricity supply	.303**	.000
Kitchen	.212**	.000
Water provision	.218**	.000
Bathroom	.305**	.000
Restaurant provision	.090**	.000
Sporting facility	.174**	.000
Recreational facility	.093**	.000
Shower	.009	.637
Fire protecting equipment	.094**	.000
Common Room	.171**	.000
Desk and Chairs provision	.227**	.000
Wardrobe	.237**	.000
Cleaning services	.221**	.000
Internet services	.142**	.000
Hostel security services	.077**	.000
Sickbay	.047*	.015
Study space	.118**	.000
General hostel maintenance services	.099**	.000
Intercom system	.098**	.000
Laundry services	.049*	.012
Smart temperature control	.081**	.000
Surveillance cameras	.128**	.000
Deadbolt locks	.162**	.000

Toilets	.239**	.000
Wall socket	.265**	.000
White board suggesting	.195**	.000
Booking room	.167**	.000
Extinguisher	.141**	.000
Reading corner	.134**	.000
Fan	.184**	.000
Plumbing	.127**	.000

Source: Field Survey, 2024

Table 3 presents the correlation results between hostel amenities and academic performance. The correlation coefficients range from -1 to 1, where the sign indicates the direction of the relationship (positive or negative), and the absolute value represents the strength of the relationship, with larger values indicating stronger correlations. The correlation coefficients on the main diagonal are 1.0, reflecting a perfect positive linear relationship of each variable with itself. The results reveal a generally positive and significant relationship between academic performance and hostel amenities, except for the shower, which shows a positive but insignificant relationship.

Most amenities, with the exception of the shower, show statistically significant relationships with academic performance ($p\text{-value} < 0.05$). This underscores the importance of a well-facilitated living environment in supporting academic success. Also, analysis of the correlation between hostel amenities and academic performance yields several decision implications for stakeholders, including university administrators, hostel managers, and policymakers.

Prioritizing improvements in hostel amenities should focus first on those with the strongest positive correlations to academic performance, particularly basic utilities and study-related amenities. Once these are adequately addressed, attention should shift to cleanliness, security, and maintenance, followed by secondary amenities that contribute to student well-being.

6.0 Conclusion and Recommendation

The study evaluates the relationship between academic performance and amenities provided in Federal Universities in North East Nigeria. The findings showed mixed results regarding the relationship between hostel amenities and academic performance. Certain amenities, such as electricity supply, internet access, and wall sockets, had positive coefficients, indicating a significant positive relationship with academic performance ($P < 0.05$). This suggests that investing in these amenities can considerably enhance academic performance. Conversely, amenities like laundry services, room bookings, and sick bays displayed positive coefficients but had p -values greater than 0.05, indicating a non-significant positive relationship with academic performance. This suggests that these amenities may need further investigation. Additionally, the study indicates that hostel amenities are essential for supporting students' success. This aligns with the findings of Makinde & Ayeni (2018) which stated that hostel amenities have a significant relationship, an important indicator and contributed significantly to students' academic achievements.

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