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Post Occupancy Evaluation of On- Campus Students Hall of Residence 'A Case Study of Obafemi Awolowo Hall of Residence Ile-Ife'

By

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Research Article

Post Occupancy Evaluation of on-Campus Students Hall of Residence: A Case Study of Obafemi Awolowo Hall of Residence Ile-Ife

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ABSTRACT

The rate of increase in the number of young people seeking university or other higher institution and diversity of their needs makes the issue of students housing a particular problem. Today "housing the student" is one of the major problems facing most of our institution of higher learning. This paper, however, described the study that report the post occupancy evaluate of students residential environment in Obafemi Awolowo University, Ile-Ife in terms of its use and responses with reference to case study in the university. The main objectives of this study are: to examine the socio-economic characteristics of the users; to access and evaluate the students use and response pattern to spaces within the hall of residence; to examine the quality of student housing in terms of its users response to the facilities and services provided. In order to achieve the desired aim and objectives of this research work, data will be obtained through primary and secondary source. This includes the distribution of structured questionnaires prepared through the information relating to post occupancy evaluation of student's residential environment. 10% questionnaires of the total no of rooms at Obafemi Awolowo hall of residence were administered to the students of the hall which amount to 75 numbers of questionnaires $10/100 \times 750$. Where 750 = number of rooms in Obafemi Awolowo hall of residence. The implications of these results were analysed and discussed.

Key words: Post Occupancy Evaluation, Use and Response, On-campus, Hall of Residence.

INTRODUCTION

The importance of the social environment in students life cannot be overemphasized and integral role which student housing assumes in overall campus planning and design evolved based on philosophy that a close proximity between learning and intellectual development of universal students. In fact, it is the social responsibility owed by the school authorities to provide a conducive atmosphere for learning and interaction (Amole, 1998). Studies of residential satisfaction have usually examined residences as whole environments (Amole, 2008). Completed residential buildings should not only be fit for the purpose of the users, but also be able to perform their functions in such ways as to ensure relative residents 'satisfaction (Liu, 1999). However, on campus accommodation has been a potent source of conflict between the university authority and students, the more it is de-emphasized the less the conflicts. The issues of students housing need to be vigorously examined with a view to evolving a sound policy on

students housing. The problems of student housing has prompted some researchers in the developing world to investigate the actual needs of students. Khozaei *et al.* (2010) postulate that feeling attach to the place can be originated from the overall residential satisfaction.

Many buildings do not perform as planned; in some cases this can impact on running costs, staff and client satisfaction and performance, health, safety and comfort. For repeat construction clients, learning from, and correcting past mistakes in design and commissioning of buildings can be extremely cost-effective and greatly improve workplace productivity. The concept of post occupancy evaluation is about procedures for determining whether or not design decisions made by the architect are delivering the performance needed by those who use the building (Ilesanmi, 2010). POE provides enormous potential for improving the performance of a building. POE evolved to fill the gap in the conventional building process, which consists of planning, programming, design, construction and occupancy of a building (Ilesanmi, 2010). It represents the vital diagnostic step needed to feed the prescriptive tools of planning and programming (Voordt and Wegen, 2005). The aim of this study is to evaluate the post occupancy use of on-campus student housing facilities in Obafemi Awololowo University. The results of this paper provide insights for housing facility managers and administrators and at higher learning institutions. This information provided by the students however will enable the authority of the institution to improve services and to offer better on-campus housing facilities in the future. The results will also help policy makers develop strategic policies to ensure the universities to provide world-class on-campus student housing. (Najib, Yusof and Osman, 2010). However, this study measured and demonstrates the environmental performance of buildings in use.

Research Aim and Objectives

The aim of this study is to evaluate the post occupancy use and response of students housing using Obafemi Awolowo University Ile-Ife as a case study. Watson (2003) defined POE as a systematic evaluation of opinions about buildings in use, from the perspective of users. It is essential to elicit the perceptions of the residents and correlate these with the performance level of housing as determined by POE. The specific objectives of this paper are as follows:

- To examine the socio-economic characteristics of the users.
- To access and evaluate the students use and response pattern to spaces within the hall of residence.
- To examine the quality of student housing in terms of its user's response to the facilities and services provided.

Literature Review

Concept of Post Occupancy Evaluation

Post occupancy evaluation evolved from the architectural programming techniques of the late 1950s and early 1960s. Early significant evaluative efforts were in response to severe problems faced in institutions such as mental hospitals and prisons, some of which were attributable to the built environment (Ilesanmi, 2010). The 1960s saw the growth of research that focused on the relationship between human behaviour and building design, leading to the creation of the new field of environmental design research and the formation of interdisciplinary professional associations. Preiser and Vischer (2004), however, consider POE to be the most commonly used term for the activity of evaluating buildings in use. Watson (2003) defined POE as a systematic evaluation of opinions about buildings in use, from the perspective of users. POE serves as a multifaceted tool to account for building quality through the identification of successful design features, redundant or unnecessary building features, problems to mitigate, and defects to rectify (Watson, 2003). It thereby helps to empower users to negotiate building issues and reduce maintenance works and cost (Bordas and Leaman, 2001; Vischer, 2002; Hewitt *et al.*, 2005). According to Preiser (2002), The concept of post occupancy evaluation is a systematic manner of evaluating buildings after they have been built and occupied for duration of time (Preiser, 1995, 2002). It is the gap between the actual performance of buildings and explicitly stated performance criteria constitute the evaluation (Preiser *et al.*, 1988). One of the applications of POE is the comparison between the use that the designer intended for an environment and that to which its users put it. It is essential to elicit the perceptions of the residents and correlate these with the performance level of housing as determined by POE.

From history, building performance was evaluated in an informal manner, and the lessons learned were applied in subsequent building cycles of similar building types (Preiser, 2002). Although informal, subjective evaluations of the built environment have been conducted throughout history, systematic evaluations, employing explicitly stated performance criteria with which performance measures of buildings are compared, is of more recent origin. Vischer (2002) suggests that POE is used in determining building defects, formulating design and construction

criteria, supporting performance measures for asset and facility management, lowering facility life cycle costs by identifying design errors that could lead to increased maintenance and operating costs, and clarifying design objectives. POE provides a mechanism for understanding the mutual interaction between buildings and users' aspirations and for proposing ways of improving the environment necessary to accommodate these aspirations.

Three levels of effort in typical POE work have been identified, namely:

1. indicative
2. investigative and
3. diagnostic (Preiser and Vischer, 2004 cited in Ilesanmi, 2010).

'Effort' refers to the amount of time, resources and personnel, the depth and breadth of investigation, and the implicit cost involved in conducting a POE. Indicative POEs give an indication of major strengths and weaknesses of a particular building's performance. Investigative POEs go into more depth whereby objective evaluation criteria are explicitly stated. Diagnostic POEs require considerable effort and expense and utilize sophisticated measurement techniques. This review of literature confirms the relevance of POE in public housing evaluation. However, despite the preponderance of research in the context of building performance, POE as a systematic method of collecting data on buildings in use has not found wide usage for public housing in Nigeria (Ilesanmi, 2010). Since, post-Occupancy Evaluation (POE) is the process of obtaining feedback on a building's performance in use. The value of POE is being increasingly recognized, and it is becoming mandatory on many public projects. POE is valuable in all construction sectors, especially healthcare, education, offices, commercial and housing, where poor building performance will impact on running costs, occupant well-being and business efficiency.

Post occupancy evaluation highlight any immediate teething problems that can be addressed and solved .It identify any gaps in communication and understanding that impact on the building operation. It also provide lessons that can be used to improve design, procurement on future projects and act as a benchmarking aid to compare across projects and over time. Post Occupancy Evaluation involves the building users in defining how buildings function for them (Watson, 2003). This participation has been shown to engender greater commitment to solutions and more willingness to accept shortcomings. Evaluation is also an important tool in planning refurbishment of existing buildings. (Watson, 2003). It helps clarify perceived strengths and weaknesses in order to focus resources where they are needed. It identifies where building design adjustments are needed to support changing practices, markets, legislation and social trends.

Post occupancy evaluation and the student housing

One common residential satisfaction measurement used in previous studies is the Post-Occupancy Evaluation (Najib, Yusof and Osman, 2010). Hassanain (2008) points out that student perceptions can be assessed in terms of both technical (i.e., acoustic and visual comfort) and functional (i.e., room finishes and room layout) requirements.

He, however, considers technical and functional building performances as two different aspects that can be used to explain student residential satisfaction. In a different approach, (Foubert *et al* ,1998, Amole , 2009a & Khozaei *et al.*, 2010 cited in Najib, Yusof and Osman, 2010) investigate beyond the scope of housing facilities and add management as a factor in student satisfaction. They include elements such as hostel rules and fees and the attitudes of hostel employees. Several factors can be used to assess overall satisfaction with student housing, including physical variables such as facilities and extra services (Hassanain, 2008). Social variables such as student relationships, financial support, crowding and privacy (Frank and Enkawa, 2009) and a combination of these aspects (Foubert *et al.*, 1998; Amole, 2005, 2009a, 2009b; Khozaei *et al.*, 2010). Nevertheless, previous studies have not provided conclusive results regarding student satisfaction in all of these areas. Post Occupancy Evaluation is a tool to account for building quality essential when organisations are required to demonstrate that building programmes are being responsibly managed (Watson, 2003). Participants in Post Occupancy Evaluation often identify ways to design and use buildings and equipment more efficiently and more cost-effectively. (Watson, 2003). Dysfunctional or seldom-used building features can be identified and eliminated from future designs. Imperfections in new buildings can be fine-tuned and management practices adjusted (Watson, 2003). Often, minor changes to buildings and the ways they are used offer significant benefits to users. Systematic analysis of buildings from all relevant viewpoints is also useful for negotiating between the various interest groups and assists them in realising the potential and limitations of their buildings.

The Study Area

Obafemi Awolowo Hall popularly known as Awo Hall is one of the earliest halls of residence designed by ARIEH SHARON and ELDER SHARON in 1964 and completed in 1967 to accommodate male student in Obafemi Awolowo University. It also has its own administrative staff and elected students hall conclave. Obafemi Awolowo hall has

about 750 designed bed spaces, these numbers within, a small ground are far exceeded the capacity of commercial facilities. Awo Hall consists of eight blocks (1-8) each consisting of three floors, each floors has ten rooms originally designed for four students but they presently house six students. Certain block have basement floor consisting of three rooms to accommodate three students originally but presently housing five students each. Research find out that, this rooms are not conducive to sleep, lack of privacy, poor maintenance of the facilities, especially the toilets as they go hand in hand with the overwhelming problem of density. Many of these toilets are in disrepair. There are covered walkways linking meeting rooms to residential blocks. Improvised pathways across the hall also lead to residential block entries to the open ground. There is single acceptable entry to the hall from porters lodge approached from east along paved paths adjacent to parking. There is existing path from road two to common entry. The parking area is located at east of entry and it is accessible from service road, two sparse trees cover the parking area. There is also motorcycle-parking shed.

Source: Authors Field Work (2012)

**BLOCK TYPE A (ANNEX) TYPICAL GROUND FLOOR PLAN
SHOWING THE INTERNAL ARRANGEMENT OF ROOMS**

Source: Authors Field Work (2012)

**BLOCK TYPE B (MAIN BLOCK) TYPICAL GROUND FLOOR PLAN
SHOWING THE INTERNAL ARRANGEMENT OF ROOMS**

Source: Authors Field Work (2012)

RESEARCH METHODOLOGY

In order to examine the post occupancy evaluation in the context of student housing satisfaction with a view to improve the university policies on students housing in the Nigerian universities, a quantitative data collection technique, namely 'survey method' is appropriate. A research instrument called 'Structured questionnaire' on students housing environment were design to covered paramount issues such as available facilities, spaces provided, environmental issues, maintenance and were administered to students of Obafemi Awolowo hall of residence (Awo Hall) in Obafemi Awolowo University, Ile-Ife, Osun-State. A total numbers of 75 questionnaires were administered to the students residing in this hall. The implications of the result provided in the questionnaire by the students of different socio-economic background were subject to factor analysis using statistical package for social sciences (SPSS). Also secondary methods of data collection were employed. Other key officers and policy instruments of the institution were consulted for success. For examples existing drawings of Awolowo hall were requested for, from the physical planning unit of O.A.U. Also sketches of the typical student room and the hostel layout were made available for analysis. Site visits, observations and interviews complemented the data collection process were also carried out. Also Photographs of spaces and forms of the hostel were taken and documented.

Presentation and Analysis of Data

This research work is to conduct the post occupancy use and response of student housing. Emphasizing on the functionality, conformability of the use of spaces and facilities provided for a typical student hostel. The data obtained from students of different socio-economic characteristic were presented and analyzed below.

Table 1: Socio-Economic Characteristics of the users

Socio-Economic Characteristics of the users		Frequency No	Percentage %
Sex of respondents	Male	75	100.0
	Female	0	0
	Total	71	100
Age of respondents	15 to 20	8	10.67
	21 to 25	54	72
	26 to 30	9	12
	Above 30	4	5.33
	Total	75	100
Level of Study			
	100 level	9	12
	200 level	21	28
	300 level	22	29.3
	400 level	19	25.33
	500 level	4	5.33
	Total	75	100
Religion			
	Christian	62	82.67
	Islam	10	13.33
	Traditional	0	0
	Others	3	4
	Total	75	100
Ethnicity			
	Yoruba	62	82.67
	Igbo	5	6.67
	Hausa	3	4
	Others	5	6.67
Marital status			
	Single	72	96
	Married	3	4
	Total	75	100
Means of Sponsored			
	Self	2	2.67
	Parent	68	90.67
	Scholarship	1	1.33
	Relative	2	2.67
	Others	2	2.67
	Total	75	100

Source: Authors Field Work (2012).

The above distribution table shows that 100% of the respondents are male and also shows that 10.67% of the respondents are between the age of 15-20, 12% are between 26-30years and just 5.33% are above 30 while 72% of the respondents are between the age of 21-25 years. The distribution table shows that, 12% of 100 level students, 28% of 200 levels, 25.33% of 400 level, 5.33% of the 500 level and 29.33% of the students are interviewed. Also 82.67% of the respondents are Christian, 13.33% are muslim while just 4% of the respondents are from others religions specified. 83.67% of the respondents are Yoruba 6.67% are Igbo and others Ethnicity specified respectively, while just 4% are Hausa. It is observed from that, 96% of respondents are Single, while 4% of the respondents are

married. The table also shows that 90.67% of the students are sponsored by their parent, 2.67% by the relative and self respectively, while just 1.33% of the students are sponsored by scholarship.

Table 2: To evaluate the students use and response pattern to spaces within the hall of residence.

Facilities Provided for the Residents		Frequency No	Percentage %
Size of the Room	Excellent	1	1.33
	Good	15	20
	Average	26	34.67
	Fairly	23	30.67
	Poor	10	13.33
	Total	75	100
Room fixtures and furniture	Excellent	1	1.33
	Good	15	20
	Average	25	33.33
	Fairly	21	28
	Poor	13	17.33
	Total	75	100
No of Student per Room	2 to 4	14	18.67
	4 to 6	12	16
	6 to 10	34	45.33
	Above 10	15	20
	Total	75	100
Ease of Movement within the Bedroom	Excellent	3	4
	Good	23	30.67
	Fair	35	46.66
	Poor	14	18.67
	Total	75	100
Level of Privacy Provided in the room	Excellent	1	1.33
	Good	9	12
	Fair	30	40
	Poor	35	46.7
	Total	75	100
The Level of Comfort ability	Excellent	3	4
	Good	24	32
	Fair	40	53.33
	Poor	8	10.67
	Total	75	100
Level of Ventilation In The Room	Excellent	6	8
	Good	21	24
	Fair	33	46.67
	Poor	15	21.33
	Total	75	100
Level of Natural Illumination	Excellent	5	6.66
	Good	26	34.67
	Fair	34	45.33
	Poor	10	13.33
	Total	75	100

Source: Authors' Field Work (2012).

The above distribution shows that, 34.67% of the students rate their room to be average, 30.67% to be fairly, 13.33% to be poor, 20% to be good and just 1.33% to be excellent. The table also shows 33.33% of the student rate the room fixture and furniture to be average, 28% to be fairly ok, 20% to be good, 17.33% to be poor, while just 1.33% to be excellent. The table also revealed that, 45.33% of the students stay in a room of 6 to 10, 18.67% stay in a room of 2 to 4, 20% stay in above 10, while just 16% stay in a room of 4 to 6. The distribution table shows that, 30.67% of the student rate the ease of movement within the bedroom to be good and 46.66% to be fair, 18.66% to be poor while just 3% of the students rate the ease of movement within the bedroom to be excellent. It is also observed from the table that 46.7% of the student rate the level of privacy provided to be poor, 40% to be fair, 12% to be good, While 1.33% of the students rate the level of privacy to be excellent. The distribution shows that 32% of the students rate the level of Conformability generally to be good, 53.33% to be fair, 10.67% to be poor and just 4% of the students rate the level of conformability generally to be excellent. According to the table above, 46.67% of the students rate the level of ventilation to be fair, 24% to be good and 21.33% to be poor, while 8% of the students rate the level of ventilation to be excellent, 45.33% of the students rate the level of natural Illumination within the room to average, 34.6% to be good, 13.33% to be poor, while just 6.6% of the student rate the level of natural illumination to excellent.

Table 2: To examine the quality of student housing in terms of its user's response to the facilities and services provided.

Facilities and Services Provided for the Students		Frequency No	Percentage %
Level of Availability of Electricity	Excellent	9	12
	Good	43	57.33
	Fair	20	26.67
	Poor	3	4
	Total	75	100
Level of Water Supply in the Hostel	Excellent	4	5.33
	Good	29	38.67
	Fair	32	42.67
	Poor	10	13.3
	Total	75	100
Level of Drainage in the Hostel	Excellent	5	6.67
	Good	18	24
	Fair	34	45.33
	Poor	18	24
	Total	75	100
Level of Waste Disposal	Regular	14	18.66
	Very regular	24	32
	Fairly Regular	32	42.67
	Irregular	5	6.67
	Total	75	100
Level of Parking Facilities	Excellent	6	8
	Good	31	41.33
	Fair	31	41.33
	Poor	7	9.33
	Total	75	100
Level of Road Facilities	Excellent	6	8
	Good	37	49.33
	Fair	28	37.33
	Poor	4	5.33
	Total	75	100

Source: Authors' Field Work (2012).

The distribution table above shows that 57.33% of the students rate the level of electricity to be good and 26.67% to be fair, 4% to be poor while 12% of the student rates the level of electricity to be excellent. Also the table shows that, 42.67% of the students rate the level of water to be fair, 38.67% to be good, 13.3% to be poor, while 5.33% of the students rate the level of water to be excellent. It could also be observed from the table that 45.33% of the students rate the level of drainage system to be fair, 24% to be Good 24% to be poor, while 6.67% of the students rate the level of drainage system to be excellent. From the table above, 43.33% of the students rate the level of waste disposal to be fairly regular and 32% rated it to be regular, 14% to be regular while 6.67% of the students rate the level of waste disposal to be irregular. Also, the table shows that 41.33% of the student rate the level of the parking facilities to be fair and good respectively, 9.33% to be poor. While just 8% of the students rate the level of parking facilities to be excellent. It could also be observed from the table that, 49.33% of the students rate the level of road to be good, 37.33% to be fair 8% to be excellent while just only 5.33% of the student rate the level of road facilities to be poor.

FINDINGS AND DISCUSSION

Information from the respondents (Students) shows that all respondents that resides in the hostel evaluated are male and the majority of the students are between the age of 21-25. As these two characteristics are two important socio-economic characteristics of the users in accessing and evaluating the students use and response pattern to spaces within the hall of residence.

Findings of these research has shown most students' housing use space (bedroom) does not function well and they are not supportive in design aspect such as conformability, size of the room, arrangement of fixtures and furniture no per room, ease of movement, ventilation and privacy required by individual students. It is observed that, most significantly problem, the design is not flexible to accommodate more use in term of number of students as well as accommodate the new level of modernization such as computer. All these and more should be looked into in new project designing in order to make more functional and easily adaptable to now use.

Also from the third objective stated above, it was observed that, if attention is paid to services and facilities such as electricity, waste disposal, parking facilities and good road, it could have resulted in more comfortable and higher hostel satisfaction by the residents. Hostels, as living spaces should offer adequate services as well as functional and aesthetic satisfaction to students. From the finding, the hostel evaluated performed just above average as good quality ratings of the aspects used in the evaluation outweighed the poor quality ratings. Also, findings showed that lack of good water supply, good drainage system and lack of regular waste disposal, adequate ventilation, poor management and maintenance are major issues highlighted by the students as constrains of their hostels.

RECOMMENDATION

Based on the information provided by the student of different socio-economic characteristics that resides in the hall of resident evaluated, it is quite essential to make some viable recommendations on the way of improving the functionality and conformability of the use of space, services and facilities provided in student hostel. Hence, for optimal performance of on-campus student hostel, the space, services and facilities provided require clinical intervention. However, the following recommendations are eventually concluded on:

- Increase the size of the rooms for the subsequent hostel design to give convenient and accommodation for the students and their belongings such as computer. This creates a higher level of responsibility towards high level of academics performance and productivity, since the use space of student hostel is designed to function efficiently with only activities that relate to acquiring knowledge and other basic students housing need. It should be noted that increase in the size of the rooms will give way for ease of movement, level of privacy, overcrowding and adequate flow of ventilation. This can be done by the employment of appropriate professional to handle the appropriate aspects of the design process. This will ensure minimum design standards.
- Minimizing the level of room occupancy to avoid overcrowding which can contribute to student un-healthy environment, and which could eventually cause the spread of some air born disease to the student. This can be achieve by proper monitoring on the part of the university management to set up a monitoring task to monitor and control the number of student per room based on what the design can contain.
- The university management should improve on maintenance and management aspect of the student housing in terms of adequate services and facilities provided to serve the students. The services and facilities such as adequate water supply, electricity, regular waste disposal management, maintenance of drainage system,

maintenance and repair toilets/ baths should be the major focus of the university management as these will help in improving student hostel satisfaction.

CONCLUSION

This paper has critically scrutinized the post occupancy evaluation of on-campus students' housing in Obafemi Awolowo University Ile-Ife. From the analysis of the result obtained in this study, it can be concluded that, the users of Awo Hall are satisfied. To an average extent, the performance of the hostels was satisfactory despite the merit problems of poor sanitary facilities, lack of privacy, and lack of good water supply and small size of the room. There is a highly probability that buildings quite never work out as planned; however improvisation and complaints are not necessarily the result of bad design. They could be the result of an outdated concept of design, because, it has been realized that post occupancy stage is a dynamic model, and changes overtime can cause different effects.

In view of the above finding, the following conclusions are reached. The problems of over crowding can be addressed by producing more accommodation. There should be proper and adequate orientation for students on importance of good maintenance culture of fixture, furniture and other facilities provided. The use of space in student's housing should be functional, comfortable and flexible to a degree so that it will be able to serve generations of students. Finally, there is a need for a continuous study of other student housing, if the precious programmatic approach to the design of students' residential hall use spaces is to be maintained.

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