The Post-occupancy Evaluation Over the Landscape of the Campus of Zhejiang Agriculture and Forestry University

Shen JiaFeng1, Huang Wei1*, Wu Yun1

1Landscape Architecture School of Tourism and Health, Zhejiang A&F University, Hangzhou, Zhejiang, 313000, China

*E-mail: 295663188@qq.com

Abstract: This paper obtains the post-occupancy evaluation over the landscape of Zhejiang Agriculture and Forestry University through a questionnaire survey. Then, this paper carries out relevant investigation over the East Lake Teahouse, which is the most important part of the campus environment, and its surrounding environment, as well as its flow of people. After that, this paper discusses and analyses the effect imposed by the landscape environment on teachers and students on campus and tourists off campus from the perspective of environmental psychology, and draws corresponding conclusions.

1. Introduction

Post-Occupancy Evaluation (POE for short) refers to a research method which systematically evaluates the facilities being used that have been designed from the users’ perspective [1]. Actually, it mainly applies the methods of interdisciplinary research including sociology, behaviouristics, psychology, statistics, architecture and urban planning for the aim of conducting systematic evaluation over the landscape environment and buildings in the environment. Consequently, it is able to identify comprehensively the extent to which the landscape design is able to satisfy the demands of users, as well as the supervision over design and feedback mechanism brought by POE, which can improve the comprehensive efficiency and quality of landscape and construction projects [2].

2. The Purpose and Significance of the Study

The overall prominent features of the campus of Zhejiang Agriculture and Forestry University are known as large size, green, regularity, seriousness, square buildings, grid roads, and eyeful green, and the lush, clean and quiet atmosphere provides all the students with an ideal learning environment. Promoted by the construction of new campuses in many colleges and universities, the landscape planning of university campus is becoming increasingly significant than ever before. In particular, the university campus spaces in modern times have undergone great changes not only in the design of specific space such as campus teaching, communication and life, but also in the concept and mode about the overall planning of the campus in comparison with the old campus. Then, how to establish a good learning and living environment for both teachers and students in the new campus environment has turned out to be a problem that must be confronted by every campus designer.

Study on the rationality of the public environment on campus plays a significant role for an open university seeking for further development, which consequently not only points out the right direction for the planning of university, but also lays a strong basis for students’ excellent learning environment. Therefore, a university is required to conduct a comprehensive investigation and study on the public
environment as a top-class university. It is acknowledged that POE study can enable us to understand the situation about the use of school public environment more clearly, so as to enhance the construction on campus to move forward towards the right direction.

Known as a special artificial landscape, campuses of universities not only serve as a simple place for teaching, but also have their own characteristics—the original ground mode and natural landscape would change because of the regularity for the spatial layout of landscape and the distribution of buildings[3]; the landscape system would be relatively open due to the high-intensity flow of people through the landscape space. The East Lake Campus of Zhejiang Agriculture and Forestry University is regarded as an open-ended ecological campus, and the spatial layout of its landscape adapts well to the local conditions. In the environment surrounded by mountains on three sides, the plant landscape on the campus extends based on the original undulating terrain so as to integrate well with the environment. This paper mainly carries out related studies on the Middle East Lake Teahouse on campus with the aim of providing better suggestions for the transformation of landscape on campus in the future, enhancing the scientific rationalization of landscape structure on campus, and offering a beautiful environment to teachers and students for their learning, leisure, entertainment and exercise. Moreover, this paper analyses the regional characteristics of the East Lake Teahouse from the angle of the landscape pattern of plant, summarizes the characteristics and styles possessed by planning and layout, and creates excellent campus plant landscape through the principle of sustainable development so as to from a beautiful campus environment.

3. Analysis on Survey Results

3.1 Investigation and analysis on the flow of people around the area

The flow of people in the East Lake Teahouse is affected by different seasons and different time periods of a day. Through asking the staff working in the teahouse, it is obtained that the flow of people is the most during the spring, for the reason that it is warm in spring when a hundred flowers would be in full bloom and there is a pleasant scenery by the lake. As a consequence, it would attract many people inside and outside the university to drink tea, enjoy the scenery and talk freely here. The second frequently visited season is autumn when the weather is getting cooler, the leaves are withering, and the fallen leaves are colourful, which offers us a totally different scenery. In summer when there is usually hot and students and teachers also have summer vacation, fewer visitors would come to the university, and the flow of people is less. However, some people would come here occasionally to enjoy the cool generated by the lush trees. In winter, the flow of people is also very small due to the cold weather. Besides, the daily flow of people varies because of different reasons, such as different seasons, holidays, and weekends and so on.

During this survey, a total of 150 questionnaires were distributed and 131 valid questionnaires were collected. Table 1 displays the proportion of different users and respective ratios occupied by different genders. Among them, the students in the university account for 55.7%, more than half, and the proportion of women are higher than of men.

| Table 1. The proportion of users with different identities and genders |
|--------------------------------------------------------------|
| Proportion of Users | Proportion of People/| Male/ | Female/ |
|---------------------|---------------------|-------|--------|
| Students in the University       | 55.7                | 48.7  | 51.3   |
| Staff in the University         | 30.5                | 32.8  | 67.2   |
| Off-campus Tourists            | 13.8                | 39.7  | 60.3   |
3.2 Survey on utilization frequency of environmental public facilities

Whether the design of environmental landscape is excellent or not is usually expressed by the utilization frequency of the landscape[4]. Located around Wuzhou Square, the East Lake Teahouse benefits much from it because the square is an urban public space which attracts people together to carry out leisure activities, and it is also an outdoor public space that vehicles are not allowed to enter. Beside Wuzhou Square, the East Lake Teahouse is able to provide people with convenience to rest.

Table 2 shows the frequency of different users’ coming here, and the frequency of students’ coming is higher, which shows that up to 70.2% of students would come once a week. Most of the off-campus tourists come here occasionally to enjoy the scenery, and only 16.6% of them come here once a week. It is clear that most of them are residents near the campus, and they’d come here for a walk during their spare time.

| Proportion of Users           | Once a Week/% | Once a Mouth/% | Above Half a Year/% |
|------------------------------|---------------|----------------|--------------------|
| Students in the University   | 70.2          | 28.3           | 1.5                |
| Staff in the University      | 32.6          | 60.9           | 6.5                |
| Off-campus Tourists         | 16.6          | 51.2           | 32.2               |

3.3 Survey on the satisfaction degree over environmental public facilities

In the designing process of landscape, the designer should take into account many environmental and psychological factors, whether it is about the arrangement of a rockery or the layout of a plant space. It is of great necessity to consider not only the spatial positions between them but also the relationship between them and people[5]. It is suggested that designers should fully display the most attractive features of objects through a series of designs for the purpose of controlling people’s perception of objects. Therefore, it is obtained that the layout of public facilities in the landscape environment is very important.

It is shown by the results obtained from survey that most visitors are satisfied with the public facilities in the environment, especially the teachers and students in the university whose dissatisfaction rates are only 0.9% and 2.2% respectively. However, some people still hold the view that proper improvement should be conducted for the teahouse. For example, some users propose that railings should be set up near the river so as to prevent children from running and accidentally falling, while others state that railings should not be set up because it would block the view of the sitting viewers.

| Proportion of Users         | Very Satisfaction/% | Just so so9/% | Dissatisfaction /% |
|-----------------------------|---------------------|--------------|-------------------|
| Students in the University  | 75.6                | 23.5         | 0.9               |
| Staff in the University     | 68.7                | 29.1         | 2.2               |
| Off-campus Tourists        | 65.3                | 26.7         | 8.0               |

3.4 Survey on environmental function

Based on the basic theory of environmental psychology, the guiding ideology of “people-oriented” design can only be fundamentally reflected when the designer understand people’s behaviour and psychological laws in the landscape environment, and explore the rationality and scientificity of garden space design[6].Therefore, it is acknowledged that the function of the environment is one of the important factors which can attract users to come here. This study carries out the survey on why
users come here, and the results show that on-campus students mainly come here to take photos and relieve boredom, which many students think can relieve the pressure of learning. On the other hand, the staff and off-campus tourists mostly drink tea, chat and enjoy the scenery here.

| Table 4. Statistics about the purpose of users |
|----------------------------------------------|
| Proportion of Users | Drink tea and Chat/% | Take photos/% | Wandering and relax/% |
| Students in the University | 10.2 | 52.8 | 37.0 |
| Staff in the University | 42.6 | 45.9 | 11.5 |
| Off-campus Tourists | 48.4 | 32.5 | 19.1 |

4. Summary
Through the analysis and survey on post-occupancy of the landscape at the East Lake Teahouse and its surrounding environment on the campus of Zhejiang Agriculture and Forestry University, it is found that a good landscape on campus plays a significant role for university students, and a comfortable environment can relieve stress, which is beneficial to the mental health of university students. The environmental landscape on campus is a complex whole, which includes all sorts of plants, public facilities and buildings, and the ingenious combination of all elements is a requisite for an excellent landscape environment. As a special public space, the environment of university campus is able to impose certain effect on shaping and changing the personality of university students, and thus the significance of the public environment on the university campus can be shown clearly.

Human beings are known as the main body of space, and therefore any landscape should take people’s demands as the starting point so as to reflect the concern of people, satisfy people’s physical and psychological demands, and create a beautiful environment. The application of environmental psychology to landscape and architectural design actually leads to the new research direction of design, promotes the designer’s concern over people, and realizes the optimization of landscape environment, which consequently provides many detailed design with theory and basis.

Environmental psychology is actually everywhere, whether in our lives or in the process of designing. Sometimes designers would only carry out design from their own perspective, which would result in some dehumanized designs, while environmental psychology teaches us to better analyse problems by putting ourselves into others’ shoes, so that we can really understand what kind of environment the broad masses really need. Otherwise, it may design the ideal environment in the designer’s own mind, instead of the ones expected by the masses Therefore, designers are required to make rational use of environmental psychology so as to design a more reasonable and convenient environment for people to use and conduct activities. Only when we sufficiently understand this subject, can we design a human-oriented landscape environment.

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