

Research on Campus Planning and Design Strategy Based on Waterfront Cultural Space Layout - Take Guangsha Vocational and Technical University of Zhejiang As An Example

Wenrui Lv^{1*}

¹ College of Architectural Engineering, Zhejiang Guangsha Vocational and Technical University of Construction, Jinhua, China

Email Address

julikong@live.com (Wenrui Lv)

*Correspondence: julikong@live.com

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Abstract:

As the key link of modern campus construction, college campus planning is not only related to the quality of teachers and students' study and life, but also related to the shaping of campus culture and the inheritance of local historical context. The overall planning and design concept with regional waterscape and waterfront culture layout as the core will have an important impact on the quality of campus life, campus image and artistic value. Taking the new campus of Wood carving town of Guangsha Vocational and Technical University of Zhejiang as an example, this paper puts forward the campus planning and design strategy with regional waterfront hydrology as the core, summarizes the value of waterfront culture layout in college campus planning, and looks forward to the development trend of future planning, which is expected to provide new ideas and methods for college campus planning in this area.

Keywords:

Colleges and Universities, Waterfront Culture, Space Layout, Design Strategy

1. Introduction

As the country promotes the comprehensive development of the modernization of Chinese-style higher education, the overall design theory of campus is constantly improved, and the construction of a modern campus with harmonious coexistence between man and nature will become the theme of future college construction. [1] In the face of the growing concern about the integrated development of ecological and cultural space in the construction of colleges and universities, a new campus planning concept with regional waterfront hydrology as the core of the campus is gradually emerging, which brings new thinking and possibilities for the campus planning of colleges and universities [2].

2. Characteristics and Research Status of Waterfront Culture

2.1. Ecological cultural characteristics of campus waterfront cultural space layout

College campus planning and design should first conform to the natural environment, based on local terrain conditions, climate characteristics of the design [3]. At the same time, design elements should be drawn from the local historical context to build the campus history and culture. Waterfront cultural space layout takes water body as the main design element, which has important cultural connotation for campus planning and construction to form a unique regional natural landscape [4].

In the process of planning and design, it is necessary to pay attention to the self-purification ability of water bodies, create a good waterfront ecological environment by means of plant allocation and wetland design, and realize the restoration and sustainable development of natural ecosystems [5].

2.2. Inherit and develop the value of waterfront culture concept

In the architectural creation theory of “two views and three characteristics”, Academician He Jingtang elaborated in depth that architectural creation should reflect regional, cultural and times characteristics, and further explained that it is crucial to inherit the concept of local regional culture in campus planning and construction. Integrating the local regional and cultural background into the campus planning and design with waterfront cultural elements is the value embodiment of the campus's inheritance of the local historical context. Secondly, through the introduction of local characteristic vegetation, aquatic animals and plants, to carry forward local culture, so that the waterfront area has more regional characteristics [6].

2.3. Construct the integration of ecological education and campus culture

Waterfront cultural space layout should become the carrier of campus ecological education. In campus planning and construction, the campus can be regarded as an urban green space, combined with the ecological concept of landscape, attach importance to the functional zoning of the campus, and create landscape courtyard layout. [10] Through the design of waterfront space layout and the construction of garden landscape training base, students can deeply participate in the subject course learning in the waterfront area. Combined with the design of waterfront ecological culture exhibition hall, the historical evolution and future development trend of waterfront culture in central Zhejiang can be displayed, and teachers and students can be guided to actively participate in the inheritance and development of ecological culture [7].

3. Planning and Design Strategy with Waterfront Hydrology As the Core Layout

3.1. Create open campus culture nodes

(1) In the campus planning, open campus waterfront public buildings can be planned and constructed, such as dining halls, libraries, ecological culture centers, public art squares, etc [8]. These node Spaces will become a place for cultural exchange between teachers and students on campus, and at the same time provide open and innovative functional Spaces for teaching activities. The location of the node space should be chosen in the core of the waterfront cultural area, so that the water

body can become the natural background of the cultural nodes, and create an open and interesting campus learning atmosphere.

(2) The campus cultural space should be organically combined with the teaching area, and the waterfront cultural area should be cleverly integrated into the teaching area of the campus to create a green and integrated teaching space, enhance the learning experience, stimulate innovation and thinking, and enable teachers and students to carry out course learning in the natural environment [9].

3.2. Build the diversity and network of water bodies

(1) Design various types of water bodies, such as lakes, streams, ponds, etc., to enhance the richness of campus waterfront culture. By setting artificial lakes or wetland areas on campus, improve water quality, provide ecological habitat, promote plant growth, and achieve self-purification and ecological balance of water bodies.

(2) Integrate the water network, cleverly integrate the water body with the traffic and activity areas of the campus, and design the traffic flow lines such as water walk and pavilion bridge, so that teachers and students can feel the characteristics of the campus waterfront culture more directly. Break the traditional campus pattern, integrate the campus water network, build a sponge campus, so that the waterfront and lakeside become the core of campus communication.

3.3. Integration of teaching plan and waterfront culture

(1) The key to the organic combination of waterfront cultural space and teaching activities lies in the flexibility of teaching plans. The college can make flexible teaching plans, so that teachers and students can participate in various cultural exchange activities in the cultural space, such as lectures, course practice, class exhibitions, artistic performances, etc.

(2) In the layout design of waterfront space, set up academic salon exchange area, open shared book bar, campus art design exhibition area,

The waterfront cultural space and teaching activity space are organically combined to provide teachers and students with the campus scenery for study Tours and further reflect the waterfront culture as the carrier of campus recreational activities [10].

3.4. Build a new trend of discipline integration

With the continuous development of the world economy, the barriers of various disciplines have been gradually broken down, and interdisciplinary and interdisciplinary integration have become a new trend for the development of universities in the future. In campus planning and design, it is necessary to consider the construction of space layout for cross-disciplinary communication and development, such as the establishment of interdisciplinary cooperation mechanisms among arts and crafts, artistic creative design, film and television communication, landscape architecture and other majors, so that the campus cultural space with waterfront hydrology as the core can have the function of cross-disciplinary communication and cooperation.

Through the implementation of the above design strategies, the organic combination of waterfront cultural space and teaching area can not only enhance the cultural atmosphere of the campus, but also promote the cultivation of students' innovative

thinking and comprehensive quality, and create a dynamic and unique cultural characteristics of the university's learning and living environment.

4. Campus Planning and Design of New Campus of Guangsha Vocational and Technical University of Zhejiang

4.1. Project surrounding environment and project overview

The new campus of Zhejiang Guangsha Vocational and Technical University of Dongyang City is located in the east of Dongyang Mudiao Town, the south is Guangfu East Road, the north is Lookhe Mountain, and the west is near Mudiao Town, about 80 kilometers away from Hangzhou City. The ring road on the east side of the site can direct to Hengdian World Studios. The campus is surrounded by beautiful natural scenery and convenient transportation. The base is about 1300 meters long from east to west and 750 meters wide from north to south. The total ground area of the project is about 880,000 square meters.

4.2. Inherit the regional historical context design concept

The campus site design follows the overall characteristics of the current topography and landform. The central and southern parts of the site maintain the design concept of open and flat campus core open space. The northern part of the site makes full use of the original landform to create an ecological green barrier and integrate the connotation of traditional academy culture in Dongyang City into the campus planning and design. The project extracts the axis of the academy and the form of the courtyard, unfolds the pattern of the campus and the academy in an orderly manner between the mountains and rivers, and the functional areas are organized and graded along the axis to create a design concept that combines the regional historical context with the modern academy design [11], as shown in Figure 1.

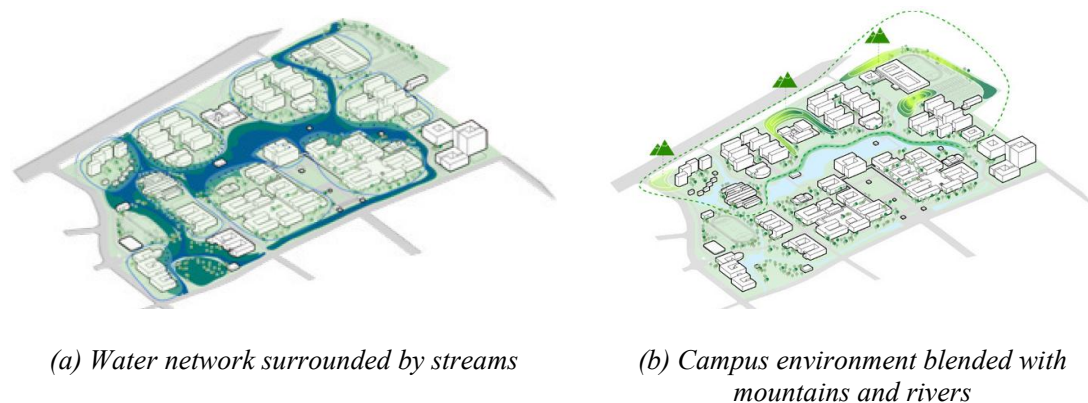


Figure 1. Campus landscape layout (Photo from GWH Architecture Studio).

4.3. Overall layout with waterfront hydrology as the core

Dongyang Changtang has beautiful scenery, and the garden landscape reputation of “there is a pond outside the pavilion, and there is a pavilion in the pond”. The design scheme extracted the design elements surrounded by streams in the traditional village of Dongyang, combined with the gardening techniques of Jiangnan area such as spot view, landscaping and borrowing view. The waterfront public buildings were taken as the core of the overall spatial structure of the campus, and the teaching area was

developed in combination with the spatial sequence of the academy community with local characteristics to create an ecological landscape corridor with the ring stream as the main line. Embodies the campus ecological pattern of landscape blending with the construction of regional waterfront hydrology as the core, as shown in Figure 2.

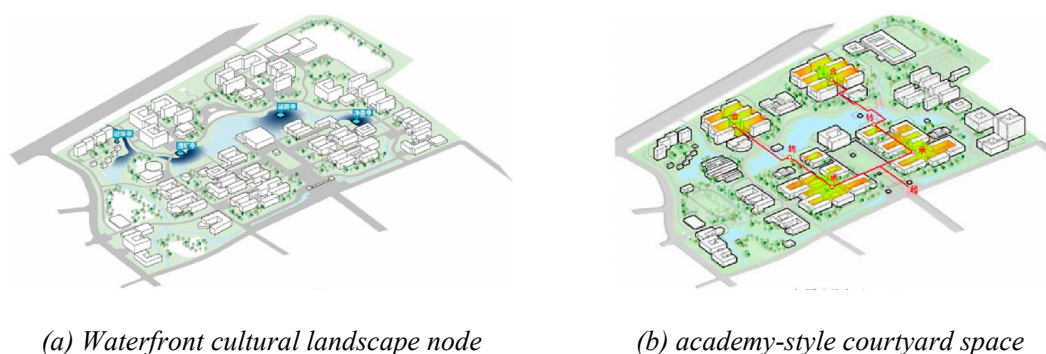


Figure 2. Overall spatial structure layout of the campus (photo from GWH Architecture Studio).

5. Conclusions

The design concept of taking regional waterfront culture as the core of the overall layout of the campus is a kind of campus landscape design technique to show the regional humanistic tone. The design of the new campus of Zhejiang Guangsha Vocational and Technical University fully embodies the rich value of waterfront culture in the campus planning of colleges and universities. Waterfront culture, as an ecologically friendly planning concept, is in line with the future society's expectations for environmental protection, innovation and sustainable development. The design concept of regional waterfront hydrology as the core will continue to lead the innovation direction of the campus planning of colleges and universities in the region, and create an ideal campus with more regional cultural vitality and sustainable development.

Conflicts of Interest

The author declare that there is no conflict of interest regarding the publication of this article.

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