

Research on the Optimization of the Curriculum System of 'Urban and Rural Green Space System Planning' Based on the Construction of Fucheng Heritage Corridor

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Abstract: Urban and Rural Green Space System Planning is the core course of landscape architecture, and it is also a systematic project related to urban ecological environment construction, social and economic construction and urban planning. With the acceleration of urban and rural construction, higher requirements are put forward for the cultivation of professional talents in landscape architecture. Based on the cultural construction background of Zhaoqing City, this paper takes the course of Urban and Rural Green Space System Planning as the research object to explore how to integrate the concept of constructing the heritage corridor of Zhaoqing City into the course, optimize the teaching system, and improve students' planning thinking and practical ability. At the same time, it points out the existing problems in the course of Urban and Rural green Space System planning, and puts forward the optimization of the course through strengthening practical teaching, regional consideration, and combining theory with practice.

1. The Development of 'Urban and Rural Green Space System Planning'

Urban and rural green space system planning is a hot research field of landscape architecture and urban and rural planning. In China, a systematic urban and rural green space system planning method system has been basically formed, and the planning content, planning scope and planning object have been expanded to varying degrees[1]. In the urban dimension, the research on the style maintenance, network planning and ecological protection of urban heritage corridors is inseparable from the support of landscape architecture and the course of "Urban and Rural Green Space System Planning." As a form of green space, urban green space system participates in the urban ecological process. Green space system planning is of great significance to the protection of historical and cultural heritage and urban development[2], and also provides an opportunity to improve the quality of landscape architecture teaching. Therefore, this paper introduces the concept of Zhaoqing City Heritage Corridor into the "Urban and Rural Green Space System Planning" course to optimize the curriculum system, and puts forward the "Urban and Rural Green Space System Planning" curriculum system with protection as the premise and urban "context" as the guidance.

1.1 Overview of Course Teaching

The course of "Urban and Rural Green Space System Planning" is a compulsory course for landscape architecture majors in the School of Construction of Guangdong University of Science and Technology. As one of the first professional courses to be included in the talent training program, it plays an important role in the curriculum system of landscape architecture majors. The course is arranged in the fourth semester. The main teaching object is the second grade students of landscape architecture majors. The total course hours are 48 hours, including theoretical teaching and practical teaching[3], of which 32 hours are theoretical and 16 hours are practical. The main teaching content is to train students to master the professional knowledge, related planning and preparation methods of urban and rural green space system from a macro perspective, to understand, plan, construct and manage the green space system from the perspective of social development, so as to help students establish a planning way of thinking[4].

1.2 The Existing Problems of the Course

At present, there are still some problems in the course of "Urban and Rural Green Space System Planning" in colleges and universities in China:

(1) Single teaching method: mainly based on teachers' teaching, lack of diversified teaching methods and activities, may lead to students' interest in learning is not high, it is difficult to stimulate their learning enthusiasm and initiative.

(2) Lack of practical teaching: There is a lack of effective practical teaching. Most of the teaching only stays at the theoretical level, and it is difficult for students to really master the actual planning and operation skills.

(3) Insufficient regional integration : regional differences are not fully considered, and the course content is not combined with the actual situation of specific regions, resulting in students' lack of understanding of the needs and characteristics of different regional planning.

(4) At present, the course content is based on the traditional green space system theory, mainly teaching the basic classification of green space, the traditional green space index, the macro structure of green space, etc., but the course content at the quantitative research level is seriously lagging behind.

(5) Insufficient community participation: Urban and rural green space system planning needs to fully consider people's needs and participation. However, existing courses may ignore the importance of community participation in planning, and lack relevant teaching content and case analysis.

2. Urban Cultural Heritage into the Curriculum

The training program and teaching plan of landscape architecture major in our school have been adjusted and revised, focusing on the cultivation of applied talents. Based on local characteristics and applications, the improvement of teaching quality is taken as the core, facing Guangdong and serving regional construction and development. Under the background of the protection and rejuvenation of Zhaoqing City, the concept of the construction of the heritage corridor of Zhaoqing City is integrated into the course of "urban and rural green space system planning." According to the characteristics of natural and historical and cultural cities, the new ideas of urban and rural green space system planning are put forward from the aspects of heritage protection, urban green space corridor network system and recreation system[5], in order to inject new vitality into the course construction and teaching of "urban and rural green space system planning" in our school.

2.1 Exploration on the Way of Curriculum Integration

This paper intends to take the construction concept of Zhaoqing City Heritage Corridor as the starting point, integrate local cultural heritage and planning courses, and build a more practical 'urban and rural green space system planning' course. In the process of curriculum system construction, module optimization is carried out, and module decomposition of curriculum theoretical knowledge is carried out in the theoretical module. In the practice module, students are organized to carry out a number of practical studies starting with the Zhaoqing City Heritage Corridor Project; in the teaching module, the task-driven teaching, the combination of multimedia and technical means, and the promotion of learning by competition are adopted to encourage students to participate in the actual planning project[6], improve the planning practice ability and comprehensive quality, and enable students to deeply understand the integration of Fucheng culture and urban and rural green space planning.

2.2 Expected Teaching Results

Through the above methods, the curriculum system has been adjusted and optimized to a certain extent, so that students can personally visit the actual city heritage corridor project, understand its planning and design concepts, and combine with theoretical knowledge. In order to enable students to have a deeper understanding of the actual operation of the Fucheng Heritage Corridor project and urban green space planning, they cooperate with Zhaoqing Urban and Rural Planning and Design Institute to carry out the planning and design of the Fucheng Heritage Corridor, so that students can apply it in practice.

Furthermore, the regional cultural characteristics of local application-oriented universities are brought into play. The talent training program not only meets the national standards of undergraduate teaching quality, but also meets the requirements of regional construction. In terms of interdisciplinary and comprehensive ability training, the concept of integration of Zhaoqing City Heritage Corridor and 'Urban and Rural Green Space System Planning' involves the intersection of landscape architecture, urban planning, cultural heritage protection and other fields, cultivating students' interdisciplinary comprehensive ability and enhancing the ability to solve complex problems.

3. Multi-dimensional Optimization of Courses

The culture of Zhaoqing Fucheng is a regional cultural heritage with a long history and landscape characteristics, which provides an important basis and reference for the optimization of the course of "Urban and Rural Green Space System Planning." Through in-depth study of the characteristics and value of Zhaoqing Fucheng culture, we can better understand the ecological environment and social needs of the region, so as to accurately determine the goal and direction of green space planning, and provide effective support for the construction and protection of green space system. This section optimizes the curriculum system through three aspects: theoretical module optimization, practical module optimization, and teaching module optimization.

3.1 Theoretical Module Optimization

As an urban green space network system, heritage corridor is composed of nodes and corridors. The nodes mainly include the point-like natural and cultural sites in series, the important public space of the city, and the intersection of the heritage corridor and other types of urban green space network systems. The types of green space mainly include point-like park green space and other

green spaces. The corridor connects each node in series and forms a linear distribution of green space in the protection range. The green space types are mainly belt parks, protective green space and other green space[5]. In the optimization of theoretical modules, the basic theoretical knowledge of urban and rural green space planning is discussed in detail, and five new theoretical modules (Table 1) are formed based on the theoretical basis of the original curriculum knowledge points, and the corresponding knowledge points of Zhaoqing Fucheng Heritage Corridor are integrated to provide theoretical basis for the optimization of subsequent curriculum content. This not only enriches the course content, but also enhances the students' understanding and understanding of the course, and applies the theoretical knowledge to the actual situation.

Table 1: Zhaoqing Fucheng cultural renaissance and 'urban and rural green space system planning' course theory teaching content optimization

<i>Theory module</i>	<i>Knowledge point</i>	<i>Integrate optimization content</i>
Basic theory module	The concept of green space, the history and development of green space system planning, the function of green space, the classification of green space and so on.	Introduce the background and characteristics of Zhaoqing Fucheng as a famous historical and cultural city. Emphasize the value of Zhaoqing Fucheng Heritage Corridor in urban green space planning.
Built-up area planning module	Urban green space classification planning, green space index calculation, green space structure and layout, etc.	Taking Zhaoqing Fucheng as an example, this paper discusses the establishment of green space system planning indicators, green space structure and layout in line with the historical context of Zhaoqing Fucheng.
City planning module	The characteristics and functions of urban green space, the structure and layout of urban green space planning, and the classification and development planning of urban green space.	This paper studies the historical and cultural evolution of Zhaoqing Fucheng and the development of urban green space planning, and discusses the theory of heritage corridor and urban green space planning.
Related ancillary planning modules	It includes the protection planning of ancient and famous trees, biodiversity protection and construction planning, urban green space landscape style planning, greenway green corridor planning and so on.	Emphasize the protection and management of the cultural heritage of the city. Explore how to combine urban green space planning to protect the integrity and authenticity of the cultural heritage of the city.
Planning implementation module	Stage construction planning, planning and implementation measures, the application of 3S technology, urban landscaping special digital information management system construction and so on.	This paper demonstrates the specific application and effect of introducing scientific and technological frontier information and advanced technology into the urban green space planning of Fucheng Heritage Corridor.

3.2 Practice Module Optimization

The practical module focuses on the research of the Zhaoqing Fucheng Heritage Corridor project. The spatial scope is limited to a radius of 12 km within the Duanzhou Ancient City in Zhaoqing, extending from the Beiling Mountain in the north to Xiangshan and Wurong Mountain in the south, Guiding Mountain and Sheshe Mountain in the west, and Qixingyan in the east. The overall landscape pattern within this range has influenced the historical urban development and cultural evolution of Zhaoqing throughout the ages, showcasing a unique landscape characterized by traditional rivers, city, lakes, and mountains[7]. Moreover, historical landscape elements are densely distributed within this area, providing an objective and comprehensive display of the developmental

context and evolutionary patterns of the Duanzhou Ancient City's landscape elements. During the teaching process, aligning with the characteristics of urban and rural green space system planning, practical learning is conducted around local cultural features such as heritage preservation and regional characteristics (Figure 1).

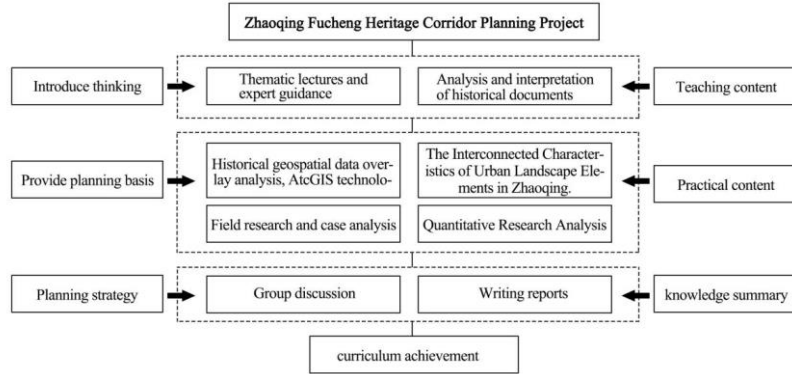


Figure 1: Practice module design

The practice module aims to deepen the implementation details of the integration of Zhaoqing Fucheng culture into the "urban and rural green space system planning" course, and will carry out the following eight aspects of practical content to promote the organic combination of Fucheng culture protection and urban and rural green space planning.

(1) School should carry out special lectures: Invite urban planning experts, cultural heritage protection scholars and other professionals to give special lectures for students, introduce the historical value of Zhaoqing Fucheng culture and the importance of heritage protection, and how to integrate Fucheng culture into urban green space planning. The content of the lecture should cover the history of the city, cultural heritage, protection strategy, urban and rural green space planning concept and so on.

(2) Interpretation of relevant literature: Through relevant literature, we can deeply understand the historical and cultural background and heritage protection status of Zhaoqing Fucheng, study similar excellent cases, draw experience and inspiration from them, and provide theoretical support for curriculum design.

(3) Application of GIS technology: teachers should guide students to learn and apply GIS technology, analyze the spatial characteristics, cultural values and protection needs of Zhaoqing City Heritage Corridor Project through digital means, and realize the scientific and accurate integration of green space planning and culture[8].

(4) Relevant departments should organize field research: Through field investigation, comprehensive analysis of architectural style, cultural symbols, landscape pattern, etc., to further understand the embodiment of Fucheng culture in urban green space planning, so as to gain an in-depth understanding of the actual situation of Zhaoqing Fucheng Heritage Corridor project, explore the relationship between Fucheng culture and green space planning, and perceive the actual challenges in the planning process.

(5) Scientific quantitative research: researchers should using questionnaire survey, data statistics and other methods to study the quantitative impact of Fucheng cultural protection and green space planning, to form data-supported planning recommendations, and to improve the scientificity and operability of green space planning[9].

(6) Group implementation discussion: teachers should arrange group discussion sessions, let students combine field research and quantitative research, exchange each other's ideas and opinions, and explore the feasibility and effect of integrating Zhaoqing Fucheng culture into green space planning.

3.3 Teaching Module Optimization

By optimizing the teaching module, students will learn in a more academic educational environment and get more comprehensive knowledge and skills. The combination of task-driven teaching, multimedia and technical means teaching[10], competition-based learning and practical teaching with enterprises will enable students to fully understand the research value of Zhaoqing Fucheng culture and the importance of combining urban and rural green space planning, cultivate students' innovative consciousness and cooperative spirit, with a view to making greater contributions in the field of green space system planning and cultural heritage protection.

(1) Task-driven teaching

Task-driven teaching is a teaching method that focuses on students' active learning and problem-solving ability. In the course of integrating Zhaoqing Fucheng culture into the "Urban and Rural Green Space System Planning," students' interest and initiative in learning are improved by designing related tasks. For example, let students play the role of planners in group cooperation, formulate a complete plan for the green space planning of the heritage corridor of the city, and require them to use the knowledge they have learned to combine field research and information technology, and fully consider cultural protection, landscape design, green space planning and other aspects to form a comprehensive solution. Through task-driven teaching, students will learn in depth in practice, improve problem-solving ability and innovative thinking.

(2) Multimedia and technical means of teaching

Making full use of multimedia and technical means to teach and increasing the diversity of classroom forms can enhance the teaching effect and students' learning experience[11]. It can not only improve students' interest in learning, but also help them understand complex concepts and theories more intuitively. In the teaching process, multimedia resources such as illustrated demonstration materials, maps, and three-dimensional models are used to show the historical and cultural background of Zhaoqing City and the case of urban green space planning. At the same time, the introduction of virtual reality (VR) technology allows students to immersively experience the Fucheng Heritage Corridor project and feel its value in urban green space planning. GIS technology can also be used for spatial analysis to explore the integration of Fucheng culture and green space planning.

(3) Promoting learning by competition

By holding competitions related to the integration of Fucheng culture into green space planning, students' learning motivation and competitive awareness can be stimulated. For example, schools should organize students to participate in urban planning and cultural protection theme competition, encourage them to further study the city heritage corridor project, put forward innovative green space planning program. Excellent works will be rewarded and displayed to encourage more students to participate in the study of Fucheng culture and green space planning.

(4) Carry out practical teaching with enterprises

Carrying out practical teaching in cooperation with enterprises can enable students to gain an in-depth understanding of actual projects and industry needs, and improve their practical application ability [12]. Students cooperate with urban planning and design companies, cultural heritage protection institutions and other enterprises to participate in real Fucheng culture and green space planning projects. Under the guidance of enterprises, students will conduct field research, formulate planning plans, participate in planning review, etc., to fully understand the challenges and opportunities in green space planning practice.

4. Summary

By introducing the construction concept of Zhaoqing Fucheng Heritage Corridor into the course

of " Urban and Rural Green Space System Planning, " and integrating the theoretical module, practical module and teaching module, the course teaching system is optimized, and the practical teaching, regional consideration and the combination of theory and practice are strengthened to cultivate students ' interdisciplinary comprehensive ability and ability to solve practical problems. At the same time, through task-driven teaching, multimedia and technical means to teach, to promote learning and practice teaching with enterprises and other methods to enhance the attractiveness of classroom teaching, expand the depth and breadth of teaching. By optimizing the teaching system of " Urban and Rural Green Space System Planning " course and integrating the construction concept of Zhaoqing City Heritage Corridor into it, not only the students ' planning thinking and systematic thinking have been greatly improved in the teaching of urban green space system planning course[13], but also help to realize the strategic goal of cultural power, highlight the regional cultural characteristics of local application-oriented universities, and improve the teaching quality of landscape architecture specialty.

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