

Practice and Research of Design Courses for Landscape Architecture Based on BOPPPS

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Abstract: By using the BOPPPS teaching model, the traditional teaching methods of landscape architecture professional design courses centered on teachers and knowledge is reformed, and a situational, interactive, and project-based teaching way is constructed, and the role of teachers in guiding and supervising is brought into play. The result verifies the effectiveness and feasibility of the teaching method based on BOPPPS in the course of landscape architecture, and at the same time respects the subject status of students and cultivates students' autonomous inquiry ability. Enhancing students' communication skills, observation and analysis skills, and improving students' ability to solve problems, and promoting students to apply the knowledge they have learned in the university.

Under the background of the new era of "Internet +", with the development of economy and society, the role of information technology in higher education has become increasingly prominent. The BOPPPS teaching model emphasizes students' participatory learning and obtains timely feedback from students in the process, and uses this as a basis to continue to adjust subsequent teaching activities. The BOPPPS teaching model injects fresh vitality into teaching, breaks the cramming education model of traditional teaching, realizes a real student-centered education, promotes the exercise and further development of students' individualized thinking, and enables students to meet the requirements of social development [1]. The BOPPPS model divides the classroom teaching content into multiple teaching units that start and turn together according to people's attention. BOPPPS model means: B (Bridge-in): the introduction link before the class starts, O(Objective): learning goals and effects, P (Pre-assessment): pre-class test, P (Participatory Learning): teacher-student participatory teaching, P (Post-assessment): inspection or evaluation, S

(Summary): summary and reflection on this lesson[2]. The main feature of the BOPPPS model is that it emphasizes participatory learning methods clarifying the teaching objectives. The BOPPPS modularizes the teaching process.

To build a new well-designed landscape architecture BOPPPS teaching model with scientific teaching organization, effective teaching methods, and appropriate teaching evaluation, which combine the theory lectures, research reports, questions, debates, and discussions into the entire class. So students can actively participate in the teaching process, fully mobilize the enthusiasm, initiative and creativity of students[3]. It is forming a new teaching system that integrates the design theory, skills, literacy, and landscape professional ethics of the landscape architecture design courses. What students learn is not only the professional knowledge of landscape architecture, but also the whole process of professional work in this area. Starting from the learning effect, construct a curriculum model, and evaluate the learning effect from feedback, improve the construction of the curriculum, and finally achieve the learning effect goal[4]. This not only helps to develop the innovative thinking and personality of the students majoring in landscape architecture, cultivates the self-learning ability and practical ability of the students majoring in landscape architecture, but also improves the knowledge, ability and quality of the students majoring in landscape architecture in an all-round way[5].

1. Problems in Teaching

The landscape architecture major in our university has set up a number of design courses such as urban road landscape design, landscape sketch design, landscape architecture design, urban square landscape design, waterfront landscape design, urban park design, and scenic area design in the talent training plan. After the end, students may not be able to grasp the connection between different types of designs and their respective design points. Some students can't even do a complete project design after graduation. The main problems that can be solved by analyzing the reasons are as follows.

1.1. Solving the Fuzzy Positioning of the Training Target of Applied Talents in Landscape Architecture

At present, the training goal of applied talents in the major of landscape architecture is mainly based on imparting systematic theoretical knowledge to students, while ignoring the comprehensive development of students' emotions and personalities, so that applied talents trained by engineering education can face a practical project. It is only a one-sided consideration, and it cannot perfectly combine the project implementation with the social environment. At the same time, the single talent training goal determined by the traditional applied talent training model is difficult to adapt to the diverse needs of economic and social development for talent training.

1.2. Solving the Problem of Lack of Overall Optimization of the Training Program

At present, the training program for applied talents is often a single training program, and the students of the same landscape architecture major are usually trained only in the same educational model, without taking into account the differences between students. The pace of professional structural adjustment is slower than that of social engineering, resulting in an industrial structural imbalance in the training of applied talents. Emphasis is placed on the setting of a single design course, while the overall optimization of the course is despised. In terms of teaching content, it is

usually aimed at the industry and centered on majors. The knowledge structure is single, and the update speed of teaching content is slow. It is difficult for students to choose learning content according to their own needs and interests.

1.3. Solving the Problem that the Learning Process is too Extensive

The grouping link in the design course will face the embarrassment of few teachers and many students. From the perspective of instructors, teachers instruct many students, and the selection, arrangement and assessment of practical topics will be mere formalities, ignoring the individual characteristics of each student, and requiring students to complete various tasks in accordance with unified curriculum standards. From the student's point of view, students would not get targeted guidance from their instructors, or the time for such targeted guidance is extremely limited, and students will not get enough attention from teachers, and it is easy to fall into the psychological suggestion of "it doesn't matter if they learn or not", and then the effect of practical learning is greatly reduced.

1.4. Learning Outcomes are Limited to Academic Performance

Students still pay attention to whether they can achieve higher grades in the process of designing courses. The result of this concern based on the reality of higher education in China is that grades completely replace achievements and become the most important focus of designing courses and teaching. However, how well students learn in design courses is by no means simply determined by grades. Designing courses to teach grades by default as the greatest learning outcome leads students to the wrong path of practical learning.

1.5. The Evaluation Method Lacks Evaluation Function

The evaluation method of landscape architecture design course teaching still follows the traditional evaluation method, and takes attendance, classroom discussion, design assignments, etc. as the reference method for grades. This evaluation method is completely classified and evaluated students grades based on students' learning behavior. In fact, a more scientific and reasonable evaluation method should be classified based on students' learning ability.

2. The Reforming Measures Curriculum and Teaching

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2.1. The goal of teaching Reform Is to Build a Reasonable Talent Training Program for Landscape Architecture Professionals. Combined with the Characteristics of Landscape Architecture Majors in Applied Universities, Reasonable Planning Should Be Carried Out. Finally, Cultivate a Certain Solid Theoretical Knowledge and Practical Design Ability, Independence and Innovation Ability, so as to Become the Applied Talents Required By the Society

In the teaching and education practice based on BOPPPS, taking the training of students' design ability as the starting point, the implementation plan is formulated according to the characteristics of the curriculum, and the scientific and reasonable implementation plan is formulated. Combining with the irrationality in the previous "Landscape Architecture Design" teaching syllabus, reform and innovate, and formulate a reasonable teaching syllabus and teaching calendar. Under the background of "Internet + education", the introduction of BOPPPS teaching mode into the training process of applied talents can realize the fundamental transformation of the training of applied talents from "based on content and theoretical knowledge" to "based on students' comprehensive ability".

2.2. Giving Full Play to the Independent and Innovative Ability of the Society through Multiple Teaching Modes. Through the Observation and Analysis of the Characteristics of Students Majoring in Landscape Architecture, Multiple Teaching Methods Suitable for Different Students Are Adopted

Students in design courses can conduct autonomous management in the following ways. One is that students manage each other collectively, and students in other groups collectively manage the other group of students. Secondly, it is the mutual management of individual students, which mainly refers to the supervision and management of students in the same group. The third is the self-management of students

2.2.1. BOPPPS Teaching Method

BOPPPS teaching mode emphasizes students' participation in learning and obtains timely feedback from students in the process. Furthermore, it continues to adjust subsequent teaching activities based on this. Combined with the characteristics and current situation of the students majoring in landscape architecture, the teaching mode of BOPPPS suitable for the design courses of this major is designed. Form a new teaching system that integrates the design theory, design skills, design literacy, and landscape professional ethics of landscape architecture courses.

2.2.2. Project-based Teaching Method

The teaching method is mainly to practice the acquired professional knowledge in practical projects. The landscape design course is to improve the design ability, so the whole process of the whole project should be run through the teaching. Establish a complete system including project topic selection, process supervision, design orientation, program discussion, project report and program evaluation, and ensure the learning effect of the project teaching method through this complete project teaching system.

2.2.3. Competition to Promote the Study

Students of this teaching method can verify and practice their professional knowledge mainly by participating in professional competitions. In the process of participating in the competition, the students' interest in learning and their enthusiasm have been improved, and the students participated in the competition with interest and were more able to go all out. The failures and successes after the competition are both noble experiences as students, and the knowledge learned will be more perfected by checking and filling vacancies. Participating in the competition is not limited to the study between students in this school, but also allows students to communicate and learn with other

college students, expand their horizons, and create better design works

2.3. Clearly Identify Learning Outcomes

Combining design courses with practical projects, the knowledge learned is put into practice in practical projects. Learning outcomes should have a clear description that clearly conveys the knowledge, abilities, and qualities that the outcome is intended to measure and develop.

2.4. Create Multiple Evaluation Methods. Through Comprehensive Teaching Evaluation, Students' Strengths and Weaknesses in Various Aspects Can Be Found, so that Students' Comprehensive Ability Can Be Improved

Introduce and improve other evaluation subjects besides teachers, set the evaluation weight, and evaluate students more scientifically and comprehensively. Among them, the status and method of teacher evaluation remain unchanged, and evaluation can still be conducted in terms of attendance, class discussion, and homework, but the content of evaluation focuses on ability, and is recorded with the goal of ability assessment; and the introduction of student evaluation is the key. Firstly, it introduces students' self-evaluation. Students are required to evaluate their abilities and give quantitative scores. Secondly, it is the introduction of mutual evaluation of students. Students' mutual evaluation can not only provide a dimension of evaluation, but also help students to master the content of practice and improve the level of thinking and evaluation. Thirdly, enterprises can be introduced to evaluate the design of students as an important evaluation reference. Because the traditional classification method based on assessment content is difficult to change temporarily, the ability-based classification method can be added to the multiple evaluation method as a reference for cultivating students' abilities and improving their own quality.

3. The Application of the Reforming method in Practical Teaching

Cultivate students' independent design ability, improve students' innovation and practical design ability, teachers teach students through multiple teaching modes, mainly using project-based and BOPPPS-based modes, so as to provide students with a better learning environment. The feasibility of multi-teaching mode in the course design teaching of landscape architecture specialty has been verified, and good results have been achieved.

The BOPPPS teaching mode is integrated into the professional design course of landscape architecture, and it is divided into six stages to complete. The course teaching is mainly divided into two parts: the theoretical teaching part and the program design part. The theoretical teaching part is mainly completed by the first three stages. The first stage analyzes the classic cases of project design, and uses its theme as an introduction before class. In the second stage, the optimized syllabus and teaching calendar will be explained in detail to the students, and the final result form and expected effect will be answered at the same time. In the third stage, students will be introduced to different types of landscape design concepts, principles, methods, and several major design elements. After learning theoretical knowledge, students will conduct group discussions and assignments. The second part is the program design stage. The design project is the actual project, which is completed by the last three stages. The first stage is the determination of the design theme, and different themed landscape designs according to local conditions are carried out according to their own wishes. Through on-site research, case analysis and sharing of design works are carried out. After class, students can choose the design cases they are interested in and conduct in-depth

analysis through multimedia sharing. Cases are shared and discussed in the classroom. It is necessary to analyze excellent cases and discuss some unsuccessful works, learn design theories and methods from excellent cases, and summarize some problems that should be avoided in design from failed works. Conduct field research and analysis on the field site, and require students to complete site analysis drawings, including site status analysis, terrain analysis, climate analysis, regional analysis, traffic analysis, SWOT analysis, etc. This stage allows students to explore the various elements of the site in the site, enhances the students' sense of scale, and emphasizes the importance of site design. Taking the existing site as the object to carry out the plaza landscape renovation design, on the basis of the preliminary analysis, the problem is raised and the solution strategy is found. The design scheme is required to be innovative, practical and artistic, and the student works are required to fully consider the needs of the owners and consumers. The second stage uses the knowledge and practical experience learned earlier to complete a design work, enrich the evaluation content of the course and test the learning outcomes of students. The third stage is the evaluation and summary stage. Through the evaluation of the teaching mode in the course implementation process, the feasibility of teaching reform is summarized. This paper summarizes the advantages and disadvantages of BOPPPS teaching mode in landscape architecture professional design courses, so as to construct a new teaching mode suitable for the characteristics of landscape architecture major.

3.1. Background of the Project

The design site is located in the western edge connecting section of Yuelai New City. Yuelai New City is located in the center of the western area of Liangjiang New District, Chongqing, China, which is a convenient transportation and superior location. The image and function of the Eco-city Binjiang Park should reflect the characteristics of the times and become an important green corridor for Yuelai groups. Yuelai New City has become the first batch of "sponge city" pilot the ecological restoration project in the northern section of the Jialing River will improve the city's water storage cells and build a "breathing" sponge city through low-impact development.

Chongqing is located in the subtropical inland region of the northern hemisphere. Chongqing has a mild climate and a humid subtropical monsoon climate. The annual average climate is about 18°C, the average minimum temperature in winter is 6-8°C, and the summer is hot. The daily maximum temperature in July is above 35°C. The extreme temperature is up to 43°C, but the lowest is -2°C. The total sunshine hours are 1000-1200 hours, the winter is warm and the summer is hot. the frost-free period is long, the rainfall is abundant, and the annual rainfall is 1000-1450 mm.

3.2. Programme Design

The overall planning takes nature, art and humanities as the ideas to make Yuelai an ecological, three-dimensional and beautiful sponge city by taking advantage of the natural terrain of the hilly area of Chongqing from a bird's-eye view. The landscape structure of this design is one ring, two axes and four areas. A new ventilator is installed for Yuelai, which is mainly reflected in the protection of the environment and the treatment of rainwater. The overall design in the original site reflects the overall concept and nature The combined idea has evolved into a poly-line element through the twists and turns of the mountains and the Jialing River.

With the help of four ecological water purification facilities, namely permeable pavement, ecological grass ditch, ecological wetland landscape and ecological revetment, the design is combined with the central lake area to jointly build an organic water circulation system of

"infiltration, stagnation, storage, purification, use and drainage" in the park. The road design adopts ecological permeable pavement, which can quickly infiltrate the rainwater into the surface, effectively replenish the groundwater, alleviate the urban heat island effect, and balance the urban ecosystem (as shown in Figure 1, Figure 2, Figure 3, and Figure 4).

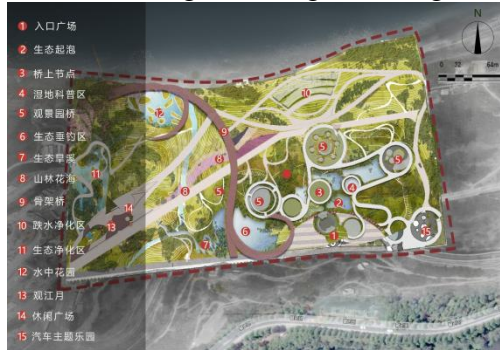


Figure 1: Site-plan

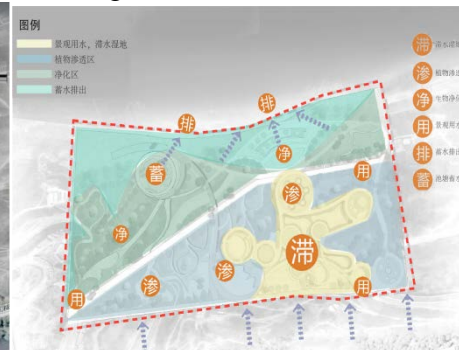


Figure 2: City Design Analysis



Figure 3: Airscape



Figure 4: Project impression drawing

4. Conclusion

Through in-depth exploration of the teaching mechanism based on BOPPPS, combined with the teaching mode and characteristics of our school as an application-oriented university, a new teaching mode in line with the school's teaching characteristics has been constructed, thereby promoting teaching reform. At the same time, ideological and political elements are added to the course teaching, and emphasis is placed on the learning and inheritance of China's excellent traditional culture. Practice has proved that this educational model is of great significance in the cultivation of engineering and enterprise application-oriented talents. Under the modern landscape design teaching concept, through the theoretical improvement of the application research of the teaching mode based on BOPPPS in the teaching of landscape architecture, the theory and practice are provided for improving the teaching efficiency and quality of landscape architecture and the exploration of the ability of students in the classroom. It can provide a certain theoretical basis for further in-depth study of this kind of teaching mode in the future. Courses of different majors are organized according to this model and promote the teaching reform of the course; teachers learn from relevant requirements, experience and cases to make the course teaching reform a success.

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