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Research on the Reform Measures of Mixed Teaching of Ecological Landscape Design

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Abstract: *With the continuous upgrading of teaching concepts, traditional teaching methods can no longer meet the actual needs of current professional education. Ecological landscape is one of the important directions of environmental design research. Colleges and universities can adopt mixed teaching methods and innovate traditional teaching methods to improve classroom teaching effect. Based on this, this paper analyzes the demand and training situation of ecological landscape design talents, expounds the differences between traditional teaching and blended teaching, and puts forward specific methods such as integrating teaching resources and innovating offline teaching methods, so as to provide reference for the teaching reform of ecological landscape design.*

Keywords: *ecological landscape; mixed teaching; teaching reform*

1. Introduction

Landscape ecological design has always been the core teaching content of environmental design, landscape architecture and other related majors. The purpose is to guide students to skillfully use different types of ecological design patterns and design methods through the study of relevant landscape design theories and practice methods, improve their comprehensive design ability, and lay a good foundation for students to complete the actual project plan. At present, the country actively promotes urban and rural construction, and at the same time promotes the continuous development of ecological civilization, which has created a broader future for the landscape industry. Colleges and universities need to transport more excellent compound technical talents for the social industry. In the cultivation of professional talents, the mixed teaching mode is the trend of the times and the development direction of design education. Therefore, the scientific and efficient use of information resources to ensure the smooth development of the mixed teaching method of ecological landscape design has become a practical problem concerned by landscape professional education [1].

2. Talent demand and training of ecological landscape design industry

Considering the demand for talents in the social industry, landscape design has obviously developed to multi-faceted and multi-level fields, such as compound designers, project implementers and project managers. The demand for front-end talents is urgent, and the employment standards of employers for this type of talents are relatively harsh. Well-known design institutions and enterprises and institutions comprehensively review whether practitioners have both ability and political integrity, compound knowledge structure, ability to continue learning, perfect theoretical knowledge system and excellent practical ability. It can be seen that the landscape design industry has a clear demand for talent standards, and the employment competition pressure faced by landscape design students is also increasing. [2] Therefore, in the process of cultivating talents, colleges and universities need to further strengthen the frontier of professional education, and at the same time ensure that the training objectives are suitable for the social development situation and match the industry accordingly. At the same time, higher education should place the foothold of talent training in key areas such as regional economic services and all-round social development, and give due attention and support to ecological education of landscape design. In teaching activities, colleges and universities can carry out their work more flexibly and practically, strengthen the cultivation of comprehensive practical ability, combine students' personality and characteristics to carry out concrete and targeted training, emphasize the mastery of cutting-edge digital practical technology, actively promote the renewal of the education model of new

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landscape design talents, and all-round meet the social needs of ecological landscape design talents will become an important direction for the development of this field in colleges and universities.

3. The difference between traditional teaching methods and mixed teaching

3.1. Teaching methods

In traditional teaching activities, teachers usually make a teaching plan in advance in combination with the course syllabus, and explain the course knowledge in classroom teaching by combining multimedia playback with blackboard writing, and there may be some teaching interaction. The teaching effect of this model is not ideal in terms of students' acceptance level of knowledge, mastery level and the completion effect of landscape design topics. In particular, courses related to landscape design are generally highly practical and cross-cutting, and landscape ecology is more multidisciplinary. It is difficult for traditional teaching methods to effectively achieve the core objectives of teaching. Not only that, but the single traditional teaching method is also its main problem. Compared with traditional classroom teaching, blackboard writing and multimedia are generally used as carriers, while network teaching takes computers or mobile communication devices as network carriers, so that students can choose their own learning resources at the right time and place. In the actual course teaching, teachers can combine online and offline teaching time, and carry out theoretical teaching online and practical teaching offline. With the organic integration of online and offline teaching, teachers can interact with students through more channels, such as various network platforms, and show excellent design cases and cutting-edge design concepts to students through online informationization. Teachers can communicate and interact with students at any time, and students can also achieve the set teaching effect in different links. Under the mixed teaching mode of online and offline integration, students' interest in learning is also stimulated, avoiding the traditional boring listening mode. At the same time, the online interactive mode can avoid some students' psychological obstacles in learning, and can discuss and communicate freely and confidently on the online platform. In offline teaching, the practice of landscape ecological design is the teaching focus. Teachers provide guidance to students in carrying out practical courses, help them solve design problems more intuitively, and adjust the scheme in time. Online teaching time is more free, which is beneficial to improving students' learning enthusiasm and making the overall teaching effect more remarkable [2].

3.2. Teaching resources

Due to the solidification of traditional teaching methods, digital information is difficult to match, resulting in insufficient teaching resources. With the rapid development of information technology, big data technology has been widely used in social daily work and life, and the teaching resources of information network have expanded geometrically and the categories are also very rich. Faced with the complex digital resources in the current network, students often can't make correct and reasonable choices in time, which requires teachers to make purposeful and planned screening according to their actual needs and personal professional ability, such as collecting online resources of landscape design, landscape design websites and case resources of ecological landscape design at home and abroad, and sharing them during the online teaching period, so that students can choose learning resources suitable for their personal development. In the process of off-line teaching, teachers can give full play to their professional role, combine the actual needs of landscape ecological design, organize students to go to the project site for investigation and research as much as possible, discuss ideas and design expressions of social projects, and communicate with the implementing units at the same time, so as to provide students with more opportunities for landscape ecological practice and learning, and guide students to strengthen their professional knowledge in continuous practice.

3.3. The form of course ending

Based on the mixed teaching mode, after the online course of landscape ecological design, teachers ask students to sort out their lessons, typeset their works, form a comprehensive expression combining pictures and words, and display them online. At the same time, teachers can use WeChat official account, WeChat group and other effective online means as display platforms to promote curriculum works, which is conducive to extensive design exchange and discussion, promote the improvement and perfection of personal design works, and also realize the promotion and publicity of professional teaching achievements. In off-line teaching activities, teachers require students to typeset and arrange the course

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assignments in strict accordance with the standards of design exhibition, and make public exhibitions in teaching activity space, school cultural space, professional design exhibition hall and other public spaces, and then explore the teaching achievements and practical paths of ecological landscape design course from multiple dimensions, so that students can spontaneously design and summarize the ecological landscape course and promote the improvement of professional comprehensive quality. The traditional way of ending a course is to submit the course homework directly to the teachers. Comparatively speaking, it lacks important and multi-angle interaction and design summary.

3.4. Comparison of evaluation methods

The traditional curriculum evaluation mode is that students submit homework to teachers, and teachers give grades and scores according to students' usual performance and comprehensive design works and grading rules. Students' daily performance includes classroom attendance and usual homework scores, and the final grade is based on the final design works submitted by students. Under the mixed teaching mode, teachers can combine students' online learning, exchange and discussion as one of the standards and components of their usual performance evaluation, and set up an online homework display evaluation system and evaluation model, which can be used as a reference for teachers' evaluation standards. Therefore, the organic integration of online and offline modes can fully show the students' landscape design literacy and professional ability, and achieve the basic principles of fairness, justice and objectivity [3].

4. Mixed teaching reform measures of ecological landscape design

4.1. Integrate teaching resources

Combined with diversified digital information resources, it is summarized into a set of software and hardware resource allocation suitable for mixed teaching of ecological landscape design course, which meets the multi-dimensional requirements of teaching media and design expression. As far as software is concerned, it mainly relies on the network teaching platform, and combines the teaching software of landscape design specialty with other commonly used network communication platforms to carry out mixed mode teaching. Among them, the teaching software of landscape design is dominant. Under the guidance of teachers, students use the network design platform to independently search the content of landscape ecology learning, and conduct independent learning online. In addition, teachers can communicate with students by using Ding Talk live , Tencent conference software, and supplement students through live conference to understand the problems existing in the process of ecological landscape design, which is convenient for students to communicate with teachers in time during the learning process, and also conducive to teachers guiding students to discuss and think. Wechat group plays an auxiliary role. Students can send their questions to teachers at the right time and place, and teachers can also reply to students in time to help them solve problems and provide targeted counseling for students. In terms of hardware, teachers can use advanced digital equipment and facilities to generate and modify ecological landscape design drawings and improve the overall quality of teaching.

4.2. Reasonable use of online teaching

Combined with the guiding ideology of "learning before teaching, teaching by learning", the online teaching process of ecological landscape design is divided into the following six links: students' self-study on the platform, teachers' key explanations, students' case collective research, teachers' online scheme modification and design scheme report. Take the link of "Campus Low Impact Ecological Landscape Design" as an example;

First, platform autonomous learning. Before the course teaching begins, teachers will publish the teaching content of this course through the network platform in combination with the clear requirements of the syllabus. During the course, teachers combine students' learning ability and learning progress to make full use of discussion and brainstorming to guide students to communicate. For example, according to social hot issues, organize the design practice of the special theme of "Sponge Campus and Low Impact Ecological Landscape Design", organize students to conduct in-depth research and discussion, and advocate students to speak freely and give full play to their personal views and opinions. [4] After the course is over, teachers publish unit assignments through the network platform, including guiding students to carry out online investigation and research on campus landscape at home and abroad, so that students can gradually complete the course learning content under the guidance of teachers.

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Second, the key and difficult knowledge explanation. Combined with the principle of flexible teaching, teachers can coordinate the online teaching time according to the actual situation and needs and carry out teaching interaction with students. In the process of online teaching, students can summarize the difficulties encountered in the process of self-study and communicate and discuss with teachers. Teachers summarize the difficulties raised by students, and make centralized explanation and analysis for the common problems of most students. In the process of landscape design and analysis, students can feedback their current knowledge or other design problems to teachers through various online ways, and form effective teaching interaction with teachers.

Third, case study. Teachers can summarize excellent typical cases of campus ecological landscape design at home and abroad through the Internet. Taking the overall planning of campus area connection of the University of Pennsylvania as an example, shoemaker Green Space, as a transitional zone between the ancient buildings in the center of the campus and the modern fashionable development space, integrates the natural ecosystem and the artificially created environment into a functional whole. The design adopts a two-pronged approach to control the rainwater in the site. The first way is to introduce rainwater runoff into a large-scale double-layer rainwater landscape garden containing soil layers and different types of native plants, so as to realize the treatment, filtration and storage of rainwater, and finally use it for irrigation and realize the ecological treatment of landscape design [5].

Fourth, online modification and improvement of the scheme. Teachers can reasonably use digital design software and drawing equipment to discuss their design schemes with students and help them revise and improve their design works.

Fifth, the design scheme report. Teachers realize screen sharing with students through the network platform, and ask students to elaborate their personal design ideas and schemes. Teachers and students discuss their opinions, laying the foundation for the follow-up offline teaching work [6].

4.3. Innovate offline teaching methods

Teachers should constantly innovate offline teaching methods and explore specific methods suitable for landscape ecological design teaching in practice when using mixed teaching mode.

First, the project teaching method. Project design is the basic feature of project teaching method. In practice teaching, the overall process of project scheme design is similar to that of enterprise project design, so it is easy to gain certain industry recognition. Combining with project design improvement, students can gain strong professional action ability, emphasize the expansion of early teaching content, pay attention to subdividing each landscape design project into several representative subprojects, and grasp the overall design process, so as to finally achieve the goal of landscape design learning. For example, teachers can apply project teaching method to design working procedures, and publish the working procedures in the network platform for students' reference, including the early stage of ecological landscape design, concept link, theme setting link, scheme formulation link, scheme definition link, text formulation link, scheme reporting link and final scheme evaluation link. Both students and teachers can use the project teaching method to fully apply knowledge and effectively improve students' design and operation ability. The most important thing is that this teaching method can strengthen students' practical professionalism by using the way of project completion.

Second, the task-driven method. Task-driven method is based on students, takes all tasks as teaching carriers, and integrates relevant teaching contents to effectively accomplish teaching objectives. During the course teaching activities, teachers can guide students to learn efficiently by using task-driven method, and guide students to complete positive thinking by performing certain tasks, so as to carry out active learning. Task-driven method should clarify the task book of landscape ecological design project, combine the goals that must be achieved after the course, refer to excellent landscape design works and successful cases, and make the teaching process more detailed. This way can actively guide and drive the tasks of ecological landscape design project, which is conducive to improving students' learning enthusiasm [7].

Landscape professional education is very practical, and many important contents of landscape ecological design need social practice, so it is easier to understand and apply from actual design projects. The teaching team or individual teachers need to carry out extensive research on horizontal topics, connect with the actual needs of society, establish the Industry-University-Research project of school-enterprise cooperation, bring practical landscape projects into classroom teaching, and take real design tasks as the driving force of professional education. The author has already carried out the practice in the series of landscape design courses of Jingdezhen Ceramic University. [8] In practice, students are required

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to combine freely, complete ecological design tasks as course topics in groups, and publish and communicate through the network digital information platform for students' groups and teachers to evaluate and select the most suitable ecological design scheme. In this way, it can greatly stimulate students' enthusiasm for learning, especially the group whose works are selected, which is more likely to produce pride and professional identity, which is of positive significance to improve students' learning ability.

5. Conclusions

Compared with the traditional teaching mode, the mixed teaching mode is helpful to improve the teaching effect of ecological landscape design, help students master theoretical knowledge and exercise their practical design ability. Therefore, teachers should make clear the advantages of mixed teaching and the training needs of social industries, actively integrate resources, innovate teaching modes and methods of ecological landscape design, and promote the development of landscape design education.

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