The Teaching Reform Plan of Environmental Design Curriculum in Chinese Universities and Colleges

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Abstract: Environmental design is a highly applied specialty. Based on this application principle, teaching practice urgently needs to step out of the old teaching mode and teaching ideas, and lead students into the field of practice, so that students can truly become applied talents who have artistic accomplishment and can put what they have learned into practice. This article adopts methods such as investigation method, observation method, literature research method, and experiential summary method to purposefully collect the status quo of contemporary environmental design classrooms. Through the summary of teaching experience, it proposes new teaching practice methods and coping strategies.
***Keywords*:** environmental design, teaching, practice, application

1. Introduction

In the teaching field of fine arts colleges and universities, environmental design is a major category with strong applicability. The students trained by the universities and colleges directly face the public and the market after graduation. Based on this principle of applicability, classroom teaching must be gradually adjusted according to the law of marketization with the ultimate goal of achieving fundamental reform. Teaching model should be reformed urgently to break through the old teaching mode and teaching concept, and students should be guided into the field of practice, so that students can truly become application-oriented talents with artistic accomplishment and the ability to apply what they have learned into practice.

2. The old teaching system of the curriculum in environmental design

Classical and traditional environment design courses of institutions of higher learning basically come from the same teaching system, namely the series of courses conducted involving indoor direction and landscape after completion of the learning of basic courses in the freshman year. The focus of each of the colleges and universities varies; some focus on the teaching in indoor environment design; some focus on the teaching in landscape or urban planning; some focus on the teaching in architectural design. However, no matter where the emphasis is, the fundamental purpose of the teaching in environmental design is to teach students to create an environmental space where people and the environment meet and coexist harmoniously. In the past, the setting of teaching courses rarely involves anything other than theoretical knowledge, and these design courses are basically completed in the classroom or computer room. The teaching tasks assigned by the teachers and the process of drawing sketches and designing schemes are completed in the classroom. The application ability for software is mainly tested in the computer room.

As an interdisciplinary course, the teaching content of environment design covers a wide scope, which includes the application software, graphics, ergonomics, perspective science, sciences in space design, landscape design, the public facilities design, furniture design, architecture design and preliminary production of models. These courses are mutually influenced, mutually penetrated with their own independent knowledge system. The previous closed-type teaching is not in line with the interdisciplinary courses like environmental design. It is not difficult to imagine how boring the design course that imprisoned students in the teaching building is, and especially for the students majoring in environmental design. The environmental design cannot be successfully made without understanding of the environment itself. Teaching in colleges and universities can't just be an armchair strategist.

In 2012, the Ministry of Education changed the department of environmental art design to the department of environmental design. The words were reduced, while the meaning was enlarged with more requirements. The principle is clear that environmental construction is not only confined to the category of art, but more should be on application. If the environmental design only stays in the artistic level and ignores the applications, it will turn out to be not feasible. The relationship between environment and humanity is inseparable, and the design must depends on people. Therefore, further teaching reform is imperative.

With the formation of art industrialization and the gradual innovation of art education, the improved teaching plan has been put on the course outline of various colleges and universities. Most of the environmental design courses in colleges and universities have been set up and are required to be taught in teaching laboratories and teachers are required to make PPT and use multimedia for teaching. In recent years, most colleges and universities have arranged teaching tasks in the same way. Students participate in social investigation by themselves or with a team led by teachers, which also forms an fixed and natural pattern. From the overall situation, theory and practice can be effectively connected. In class, the students can have intuitive cognition from the multimedia teaching, including theoretical concept and the perceptual knowledge about images. All these enable students to know the learning purpose and significance, the basic knowledge to be mastered, and the composition for completion of assignments as well in what way the assignments should be made.

3. Problems in experimental teaching

However, the above teaching methods fail to solve the most fundamental problem — the practical problem. For example, at the end of furniture design courses in environmental design, students are required to make physical furniture. After the teachers finished the introduction to the concept of furniture, brief history of the development of China and foreign countries and ergonomics, students are faced with the problem of how to master the making materials and production technology. These two parts fail to come into being only with lip services, so it needs to be combined with the experiment and practice. For many years, some colleges and universities have adopted the method of market research in terms of students' cognition on materials, and students are required to go to the material market. In view of the problem of craftsmanship, some schools adopt the "two-pronged" strategy. One way is that the students contact the furniture manufacturers or workshops, and bring their own design drawings to the manufacturers or craftsman to complete the production. The other is that students make the furniture by hands. The problem of the first way is that the production cost of a single piece is high, and there are not fixed standards for the production process. As a result, the initiative is not in the hands of the students. The problem of the second way is the lack of understanding for tools, hardware and production process with many difficulties in making. Some students choose cloth art and paper materials for production, but the choice of materials, after all, has certain limitations, which is only suitable for paper and cloth furniture. The practical problem in furniture teaching is the fundamental problem of this course, but this is only one of the courses. Taking another example: the space exhibition and design course. Students are required not only to design for space and draw the sketch of the space, but also to model the simulated space by using 3DMAX for this course. The final assignment is to make the model by hands. Such a course not only examines materials and handwork, but also requires students to establish simulation models by using computers and carrying out field research, so it is a typical experimental course.

In such a situation, the establishment of experimental courses is very necessary. At present, open laboratories are feasible, but there exist many difficulties in comprehensive opening of laboratories. The first is safety issues. For example, whether should the large equipment and precision instruments be offered for students for independent use? How should students solve the safety problems when operating the machine? Another problem is about teaching. Essential differences exist among teachers of design faculty and workers; various materials are used for furniture production, such as bamboo rattan, wood, acrylic, stainless steel, glass, fur material, cloth art, etc.; the improved industry has been formed in the production with each material; the professional teachers whose profession is environmental design fail to master so many skills in craftmanship, and even fail to be qualified with the ability for lean production all by hands. Therefore, it will be embarrassing for teachers to guide students to make furniture all by hands. The third is the capacity of the laboratory. Whether is the lab large enough to accommodate dozens of people of one class or several classes of students for furniture teaching at once? Even if it is big enough, can the machines operate for a long time at the same time? All these are the most practical problems we have encountered in the reform of experimental teaching. So such old teaching system is not enough to complete the teaching task, which has been an important reason for the reform of experimental curriculum.

4. Problems in practical teaching

From another point of view, in the final analysis, the environmental design courses in my university still need to be guided by "practice". The experiment is just the experiment, and the practice is the practice. The laboratory related problem is one we need to solve, but the practical problems still exist .

Taking the course of decoration and construction as an example. Teachers are required to make full use of the class for an overview of the entire architectural decoration project. Much theoretical knowledge will be covered during the instruction, including plastering, project on doors and windows, ceiling project, floor ground engineering, partition engineering, overcoating project, paint, paint brushing, pasting, swabbing, glass curtain wall, and roofing. Besides, it

also includes the fire control of architectural decoration project, requirements for security construction and construction requirements for environment protection, etc. Teachers should expound that the national standard and legal terms are constantly updated and students should frequently focus on the current development of related laws. On this basis, students with a little knowledge would show strong desire to see the scene of the construction site, and it is impossible for the existing teaching laboratory to provide such a construction scene, so teachers will show the photos taken in the site themselves or simply play the video to students on multimedia.

Students are almost vague about the concept of construction. Even though they can see and know something about some of the scene through the video, they have no perceptual understanding about it. And the whole process is almost in a confused state. "Talking on paper" and "Talking on screen" also cannot solve practical problems.

Taking the landscape design course as an example. The course has a lot to teach and covers a wide range of subjects. Teachers need to explain basic concept of landscape design in class and introduce the process and contents of the design of various landscapes: integration of landscape resources, the landscape planning, scenic area planning, the planning for urban green space system and design of urban landscape, parks design, external space design of buildings, and even the content of the material science and botany. So, this course is very extensive, but no matter how broad, how detailed the content is, how the design process tests a person's aesthetic and creative ability, all these are about practice.

At present, there is a lack of such practice opportunities in the teaching of environmental design in colleges and universities all over the country. The students have no perceptual knowledge of the situation in person. In the seminar for the graduating students, we also learned the source of students' inferiority and confusion — the inherent thinking mode and teaching mode of art education. The teachers conduct teaching eloquently, while the students are not clear in mind what the lesson is about on earth. And students lack practical experience in the project review at early stage, field investigation, site measurement, communication with Party A, site construction, security, project follow-up and others. It can be said that the students' understanding of environment design is just limited to the teachers' PPT. The creative thinking, open mind, cutting-edge design taught in class are just the audio-visual process, and perceptual cognition can be achieved through on-site inspection and follow the whole process. The students who are about to graduate have insufficient understanding of the industry they will be engaged in in the future, and they feel that what they have learned in the university is different from what they have seen in the internship. Therefore, it raises a serious problem for our education: how to closely link the teaching of environmental design with the practice?

5. Ideas and methods of reform on environmental design experiment teaching

Based on the principle of "learning for application", some measures must be taken to reform the teaching in experiment and practice in the major of environmental design. Compared with the previous closed and semi-closed teaching system, the open teaching system enables students to get rid of the boring theoretical knowledge and students are closely connected with social activities, which is bound to be accepted by more universities and will become the general trend in the future. In this regard, the author thinks the reform in experiment and practice of our university can start from the following aspects.

First of all, the schools' hardware must be complete. On the basis of the existing multimedia and laboratory equipment, the colleges and universities should consider whether the laboratory equipment is advanced, whether it is fully equipped, whether the quantity is enough and whether it is open enough for students. Schools should be equipped with material display halls. Although in environment design curriculum, teaching outline is arranged according to the time for market inspection, students fail to know about the various materials in the market in one day as the large size of the material market. Therefore, the ways to understand the materials in a targeted manner is the key element for teachers. And it is conducive for learning the course to enable students to know about the material name, color, texture, etc., and to make students truly touch the materials and know about their properties, function and value. Universities should be equipped with the exhibition hall and add more materials according to the upgrading of materials. Students can visit these materials as if they were visiting a museum or an exhibition hall, which is very conducive to their study of professional courses.

Secondly, improvement should be made in software in universities. The school must pay attention to the professional quality of teachers and the construction of application-oriented teachers. The construction of application-oriented teachers is related to the power of the teacher team, and social practical activities are also very necessary for teachers. Universities have the obligation to use various resources to train application-oriented teachers, so as to establish teachers' confidence in practical teaching, and the nearest resource is construction site for experiment. If the university is endowed with strong finance capability, the construction site for experiment can be developed, which is commonly known as the campus training base. The campus training base is different from the real construction site, but the campus training base

can achieve the purpose of simulation for construction. Schools, in establishing the campus training base, can try to cut from a point and build a small scene, such as indoor plastering project in all directions to make students have a certain space cognition, trigger some interest and confidence, and then seek the next point step by step, such as building, surface decoration engineering. When our training work can be done "from the points to form a surface", we can build a training base for space structure, and even can break through the limitations of indoor. Besides, the contents of landscape can be added, which include landscape ecology, botany, landscape sketch and public facilities. Such curriculum will gradually become part of the practical course, and the campus training base will correspondingly develop larger and larger. Therefore, teachers and students can learn from each other and draw upon mutual advantages and the professional courses will be greatly improved. The teaching can be conducted with one class as a unit for on-site construction, so as to achieve the ultimate goal for experiment and practical teaching.

The third is teaching methods of teachers. The classroom education in the information age should be in aligned with the times. Teachers should break through the inherent teaching mode, boldly create a new way for classroom teaching, appropriately reduce introduction to theoretical knowledge, and increase the hours for practical classes. Teachers can boldly change the teaching mode. For example, lectern-like teaching can be transformed into "round-table discussion". As a result, students and teachers can communicate in close proximity, which plays a better role in narrowing the distance of each other. And interaction will be made for solution to many problems. Universities or colleges should relax the restriction on teaching field. For example, on the basis that security is guaranteed, teachers should be encouraged to lead the students to carry out the social investigation and visit the site, and teachers can guide students to participate in all kinds of lectures related to their disciplines. Besides, teachers and students are allowed to be engaged in the teaching activities on environmental design. In the meanwhile, effective teaching interaction can be generated. The development of practical activities is of significance. Higher educations should regularly hold environmental design competition, theme week on environmental design, related lectures on environmental design, knowledge quiz competition on environmental design, etc. Through the development of these activities, the learning enthusiasm of students will be mobilized. Students' attention to the major of environmental design can be improved, and the self-confidence on their disciplines will be enhanced.

In addition, interaction of universities-enterprises is also very important, which, in essence, is the most urgent need of the graduating students. But if the interaction can be conducted at the end of graduation of students, it will surely lead to suspicion of "last-minute cramming", and is bound to fail to acquire familiar skills and professional confidence. This link can really connect the students and the society. So which link is most suitable for school-enterprise interaction? In fact, with the opening of each professional course, there should be interaction. We need to recognize that our students will face practical challenges in the future, and that each of our courses will be designed for the future. Namely, what is the course used for? That's what educators should be thinking about. Students can't be separated from society. We require students to learn to use, so the first step is to know how to teach students to "use", which field can the knowledge taught be used in, and what is the tactics in application of the knowledge and the unique way to apply the knowledge into practice.

The universities can contact with enterprises and sign long-term school-enterprise cooperation agreement. With the beginning of each course, students should be organized to participate in various visiting activities: "visiting enterprises" "visiting factory workshops" "visiting indoor and outdoor construction sites" "visiting materials market", etc. Taking the furniture factory for example, multi-procedures are needed in modern production plant and the working procedures can be done alone by a factory. And the design of the furniture contains a variety of materials and production process, so we cannot just visit a factory. Therefore, universities or colleges should maintain a long-term contact with the enterprises to meet the needs of students for outdoor survey and research. For example, we will work with enterprises to set up "off-campus practical training construction base". Students will be recyclablly sent out for outdoor practice, and outstanding students will be regularly selected for long-term on-site practice. In this way, students can have a true understanding of the practice and are familiar with the construction process. The delivery of students with qualification and practical ability for enterprises will be ensured. Universities and colleges and enterprises can set up a elite team integrating art and technology, which is composed of teachers, excellent construction masters and technicians for two-way teaching and two-way cultivation. Enterprises can help higher educations to train students to enter the society as soon as possible and higher educations can help enterprises to cultivate application-oriented talents.

6. Conclusion

With the continuous development of the market economy, and in order to cater to the development of society, education still needs to follow the principle of "learning for application". Therefore, the reform of experimental and practical teaching of environmental design is imperative. As education workers, we must face the problems in the teaching

process in a proper manner, actively put forward opinions and suggestions and show our positive attitude in breaking the old teaching mode, teaching management model, and the inherent teaching ideas. As a result, the innovative way of teaching will be presented. Through a series of teaching experiments and practice reform, several aspects are required to be met. First, for society, we cultivate the graduates with social practical ability, and the universities can be connected with society as soon as possible, making the younger generation the major force to drive social development. Secondly, for universities, our education will be with good reputation and in a virtuous cycle. As a result, the good prospects in enrollment and employment will be the natural outcome. We have prepared excellent talents for the society, and have made efforts to implement the philosophy of "imparting knowledge and educating people", build and develop strong application -oriented teaching staff, and enhance the equipment level of software and hardware. Thirdly, for enterprises, with a suitable talent introduction channel, they can selectively choose and cultivate talents that are needed by the enterprises, instead of looking for a needle in a haystack. They can establish a long-term relationship between the enterprises and future employees, and establish the cultural confidence of the enterprises. Fourthly, for teachers, the development of experimental and practical teaching greatly improves their professional accomplishment and practical teaching ability, broadens their scope of scientific research projects, improves their level of scientific research, and improves their confidence in professions. Fifth, for students, the reform of experiment and practical teaching can fundamentally solve their employment difficulties — the lack of professional practical ability. Students will no longer complain that they have learned something that cannot be applied in practical situations or complain that they acquired nothing during higher education as they enter the society. The reform of environmental design experiment and practical teaching enables students to realize their dream of "learning for application" in their school life.

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